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ALBANY
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VOLUME XXI

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Original Communications

DERMATITIS GANGRÆNOSA INFANTUM.*

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Gangrene of the skin of children is fortunately not often observed, nor does it occur very frequently even in adult life. There are numerous varieties of cutaneous gangrene, common to all ages, which present no special feature except their rarity. Such lesions are classified by Renault[1] as follows:

1. *Gangrene due to chemical agents.*—This would include[2] lesions produced by caustics, vesicants and certain medicinal agents. The first two are most frequently seen but they usually involve only the superficial layers and are not of special importance. As an example of the last, the effect of the application of carbolic acid in poultices may be cited as a frequent cause of gangrene, not only of the skin but the deeper structures as well. Pèraire[2] has noted five cases resulting from the application of a 1 per cent. carbolic acid solution to the extremities of children; in one instance the amputation of a digit became necessary 24 hours after the first application.

2. *Gangrene caused by physical agents.*—This is fairly common and includes burns, frost bites and compression. Compression necrosis may be either from external causes, such as too tight bandaging or from internal pressure. In either case

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*Read by title before the Albany County Medical Society, April 18, 1899.

the gangrene is due to the occlusion of the subcutaneous vessels. The pressure makes the skin bloodless, thin and transparent, like parchment, and is observed when there is pressure of the bones of joints in contractures, dislocations, projection of fragments of bone or less often from uric acid concretions. In congenital paraphimosis gangrene of the prepuce is due to the purse-string like band of skin.

The ordinary bed-sore—the *Hypostatische Druckbrand* of Unna—is not so frequently seen in children as in the adult, since the *panniculus adiposus* is more highly developed, but it does occur in poorly nourished children and in chronic debilitating diseases such as Pott's and hip-joint disease, typhoid fever, *et cetera.* It is not the pressure alone that causes this condition, but the weakened circulation either from heart disease or vessel paralysis, and the consequent localized hypostatic passive hyperæmia. The localized neurotic or acute bed sore differs from the usual lesion only by its quick development and the insignificance of the external injury. Under this same head would come the necrosis of the skin caused by the œdema of cardiac or renal lesions.

3. *Gangrene due to vesicular obliterations* including arterial embolism, infectious arteritis, and thrombosis, is seldom met with. In the recent congress at Moscow, Munk[3] described a case of spontaneous gangrene occurring in a child of three years, who had had a severe attack of measles complicated with a broncho-pneumonia resulting in the loss of several digits of the right hand—undoubtedly due to a toxic infectious arteritis. Brun, of Paris, noted a case following influenza, from the same cause, where the right foot was affected. An interesting case was reported by Wunder[4] where the gangrene following measles was supposed to be caused by a thrombosis of the *arteria thoracica longa*, its occurrence having been favored by the fact that before and during the illness, the child lay most of the time on the right side.

4. In the *dyscrasiæ*, e. g., in diabetes, the lesion does not differ materially from some cases of spontaneous gangrene except that the prognosis is less favorable. But there is a specific diabetic gangrene, in a certain sense, since all accidental grave or even slight wounds, either from bruises, cuts or erosions, especially on the feet or lower part of the thigh, become very easily gangrenous.

5. *Gangrene due to intoxication*, e. g., from ergotine, need only be mentioned.

6. The last division of cutaneous gangrene, that which is due to *nervous affections*. We find it in spinal and cerebral lesions and in toxic neuritis. Raynaud's disease is happily rare at all ages and especially so in children. According to some authors[5] it does not occur in children, but it has sometimes been observed by others.[6]

On the other hand there is another variety which is relatively frequent and since it is almost entirely limited to children,[7 8 9] it has been called *Dermatitis Gangrænosa Infantum*.

This particular dermatosis forms the subject of this paper.

It is only during late years that this peculiar condition has come into notice and this principally through the publication of papers in the various medical journals, although perhaps under widely differing titles. It is curious to find such an extensive nomenclature for conditions which can readily be classified under one head, but this diversity, as Van Harlingen states, is probably due to the varied clinical aspects—some certain feature appearing to the observer more prominently than others. Some authors believe the lesion is allied with pemphigus on account of the peculiar eruptions characteristic of that disease and have termed it *pemphigus gangrænosus*. In 1809 a peculiar epidemic appeared in Ireland which was given that nomen, but Hutchinson claims that this was not true pemphigus.

Fagge described a case under *rupia escharotica* and in the Guy's Hospital museum there are specimens of this disease which according to Barlow, is none other than the one under consideration.

Some authors, e. g., Pineau classified this lesion under the name of *gangrænous infantile ecthyma*. But the more recent works have done away with this extensive and overburdened nomenclature.

Professor Simion[10] was the first to individualize this lesion under the name of *multiple cachectic gangrene of the skin*. It was later studied by Eichhoff.[11] Both of these writers included in their papers only the gangrene of cachectic children. Hutchinson was the first to include the gangrenous condition seen as a complication in varicella, and later other

English writers, principally Stokes of Dublin[12], included *vaccina gangrænosa* and also that following impetigo.

Croker[13], in an elaborate article on this condition, divided it into four classes: 1st. where there is no antecedent varicella—there being generally only small gangrenous areas; 2nd. from antecedent varicella; 3rd. resulting from vaccination; 4th. localized spontaneous gangrene.

Jackson[14], describes only two forms, *Raynaud's* disease and *Dematitis gangrænosa infantum.* Hyde[15] adopted the latter term and gives us a more simple classification. He divides the lesion into two varieties: 1st. that following varicella, vaccina or any other primary lesion; and 2nd. that developing without any previous lesion of the skin and accompanied by general infection. This etiological and clinical division has been adopted by Hutnel[16] and his pupils.

Caillard[17], in his thesis, accepts Croker's division but unites the lesions under the name of infectious disseminated gangrene. The more recent French writers classify these lesions under disseminated gangrene of the skin and divide it into *gangrène disséminée infestieuse* and *gangrène desséminée postulcereuse* and this seems to be the best classification.

Let us first consider the secondary form. This is only a local complication of cutaneous ulceration—the nature of which is most variable. This form is seldom seen outside of institutions except in severe epidemics. It is much more common than the spontaneous or primary forms and usually follows varicella, less frequently vaccinia, measles, et cetera.

The subjects of this affection, as already stated, are infants or young children from three months to several years of age.

Croker reports twenty-three cases, all not exceeding two years; fifteen of this number being girls, while in two cases the sex was not reported. In the number of cases collected fully three-fourths were girls.

When the gangrenous condition follows varicella certain peculiarities have been noted by various investigators. If the onset of the gangrene occurs while the varicella lesions are still present it begins upon the head and upper parts of the body; if after most of the varicella lesions have cleared off, it is most apt to appear about the buttocks and abdomen.

When it occurred after vaccinia it was observed that the ulcerative lesions do not start from the vaccine vesicles although they most always begin on the vaccinated arm. But this condition less often occurs now since the more careful application, better virus and subsequent antiseptic measures remove the chances for infection.

Reports of cases following measles are common after a severe epidemic and numerous citations might be given. Of late Lookwod[18], Siver and others have reported cases after severe varicella. A peculiar case was desribed by Eichhoff[19] which was observed at the Breslau clinic in which after an extensive eczema had been cured, dark red patches appeared on the patient's back, on which vesicles appeared and later ulcers which soon became gangrenous. One case is cited as originating after *lichen planus infantum* and another upon *miliaria rubra* pustules.

The primary or the so-called spontaneous form is that which has resulted from internal or pathological conditions. Cases are on record which have followed tuberculosis, rickets and syphilis and particularly where there is a predisposition to the first. In scarlet fever[20], diphtheria[21] and in erysipelas,[22] gangrene sometimes occurs spontaneously. It has been known to follow various cerebral and spinal diseases and other neurotic conditions—as already mentioned, also diabetes and cachexia[23].

The primary form occurs usually in wretched, poorly nourished children. Morrow[24] reports several cases where there has been no preceding varicella, vaccinia or other eruptive disease, but the little patients were anæmic and debilitated with intestinal disturbances and diarrhœa, while the lesions were limited to surfaces which had been covered by soiled napkins.

Under the title *multiple cutaneous gangrene* in children due to cachexia three cases were reported in the *Philadelphia Medical Times*[25].

But Hilbert[26] records two cases of spontaneous gangrene of the eyelids in female infants under one year old, both children being healthy and well nourished. Somewhat similar cases were reported by Randall[27] recently. Three children of healthy parentage and good environment had an attack of sloughing of the skin of the upper lids and the root of the nose. The youngest—one year of age—died. In the other two cicatrization took place and in one the loss of the corneæ was noted. This case was peculiar, since two of the children were at the sea shore and had not been near the third child for some weeks.

Atkinson's case[28] did not follow any previous lesion. The ulcers were chiefly on the extremities—the soft parts of one finger being completely destroyed and later extensive ulcerations resulting in gangrene occurred about the face. An interesting case of spontaneous gangrene in a girl of fifteen is cited in a late journal[29] but the previous history of the patient would lead one to believe that the lesion was a feigned condition.

In this category of the spontaneous form our own case is an excellent example.

It was during July, 1897, that this case presented at the St. Margaret's Home, during the service of Dr. Henry Hun, of this city, to whom I am indebted for the pleasure of studying and reporting it. The following data were obtained:

Bertha G., two years and three months of age at the time of the development of this condition, entered St. Margaret's Home, March 12th, 1897, in apparently good health. She had had none of the diseases of infancy. On entrance there was found a small lesion on the end of the thumb which healed very tardily, leaving for some time a faint pigmentary stain; while on the tip of the little finger of the same hand appeared a similar lesion which affected the matrix and partially destroyed the nail, leaving a slight cicatrix.

The child was well proportioned, but had not shown any mental development. She did not begin to walk until after her admission and for a time, during the course of the lesion, this function was interrupted.

There is a decided tubercular family history. The father died of acute pulmonary tuberculosis, while the mother, 29 years of age, is now in a well advanced stage of this disease. A brother of the patient has been an inmate of the child's hospital for the past four years, suffering from a most obstinate hip-joint disease. This tubercular tendency may be traced back several generations.

The child was apparently in good condition on the afternoon of July 15th, when it had its usual bath. The next morning the nurse in charge noticed that the child was restless, more irritable than usual and somewhat feverish, so that an examination was made at once. The accompanying cut, taken ten days after appearance of the lesion will show the seat and limits of this peculiar malady.

On first examination there appeared to be an immense flattened bulla extending from a point a little below the umbilicus, upward for a distance of 12 to 14 cm., the transverse diameter being somewhat less. This blister had ruptured spontaneously so that it was flattened except at one or two small points near the right lower margin, which had the appearance of isolated bullæ and on being punctured, discharged a sero-purulent substance. The whole lesion appeared like a large blister from a severe burn and the nurse in charge was questioned as to that possibility. The margin of the lesion was an intense red, changing gradually to purple. The dermis became gangrenous and gradually sloughed off beginning at the circumferences, leaving a denuded area from which a profuse exudate appeared. There was a secondary extension downward reaching nearly to the symphysis, but no resulting gangrene and which healed rapidly, leaving a deep purplish pigmentation.

A short time after the development of the abdominal lesion there appeared quite as suddenly several erythematous spots, varying in size from a split-pea to that of a twenty-five cent piece, about the anterior surface of the neck and upper anterior margin of thorax. From the centre of some of these areas appeared bullæ, while they did not develop in the others. The contents of the bullæ were absorbed or removed by puncture and the lesions, which were of a less severe type, healed without gangrene. There also appeared a bulla on the right upper eyelid and one on the scalp near the lambda. In the cut the characteristic appearance of one of these lesions, after drying up, may be seen. There was a dark purplish ring about the central portion of partially devitalized dermis; this discoloration gradually fading disappeared about the fifth week. The erythematous areas in which no bullæ developed disappeared more quickly. The abdominal lesion healed slowly by granulation and by the middle of October the purplish pigmented cicatrix alone remained. At present there is a large, irregular fan-shaped cicatrix about 9 cm. in diameter.

At no time did the child have any pronounced fever, although unfortunately the temperature was not taken during the onset. She rested well and took her nourishment without difficulty and did not seem to suffer except when the abdomen was dressed.

The urinary analysis gave a trace of albumen but was not otherwise abnormal.

The fourth week after the first appearance of this lesion a condition corresponding to that of post-diphtheritic paralysis was noted. Attention was called to the fact that the child had become indifferent to surroundings and did not show any desire for food. Mental apathy was marked. There was a weakness of the cervical muscles—the child not being able to support its head and later she could not sit up without support. The arms were moved about indifferently while the legs were symmetrically paralysed—there being no motion whatever. The loss of the knee-jerk was noted. No change in the power of accommodation or reaction of the pupil to light was discovered. Sensory symptoms in very young children are seldom, if ever, to be relied upon and in this case even the approach of a stranger or the nurse when the dressings were to be changed, was sufficient to nullify apparent paresthesia. The bladder was not affected.

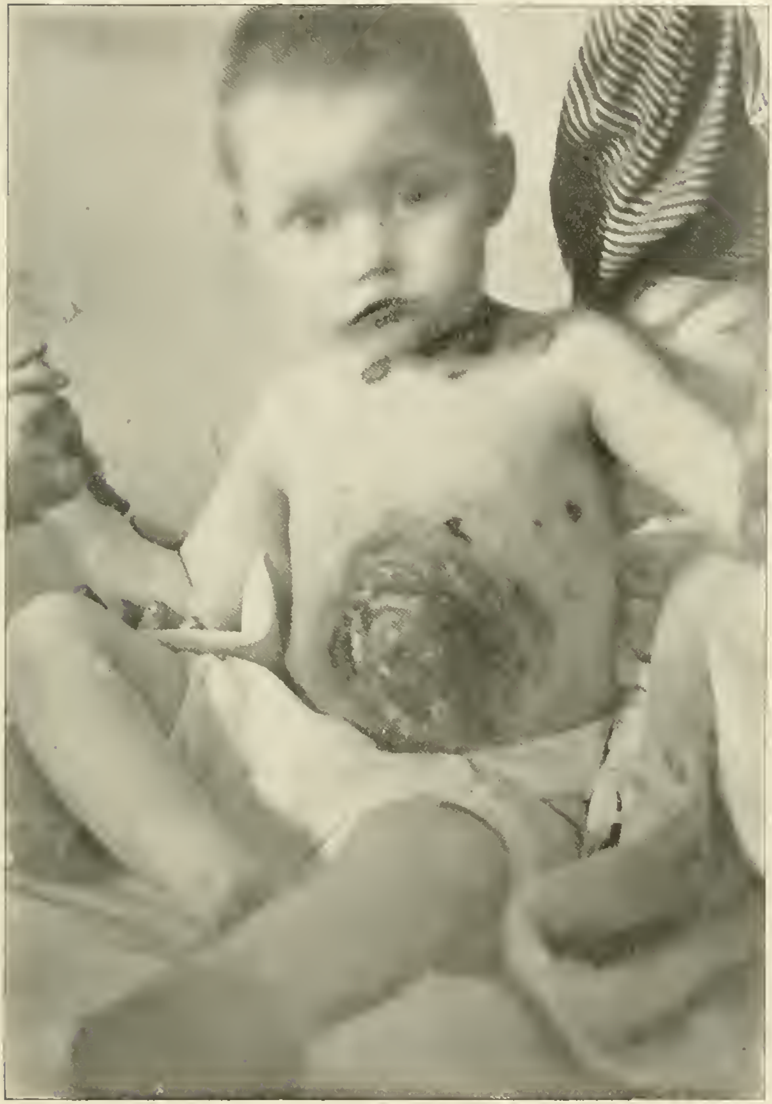
This tempory paralysis lasted some weeks when it gradually began to disappear, the loss of motion in the legs enduring the longest. Recovery is now perfect.

This case was chiefly interesting on account of the spontaneous development, the great size of the lesion—larger than any previously reported so far as I have been able to ascertain—and because of the resulting paralysis.

Definition.—Jackson defines the lesion, in the secondary forms, as consisting essentially in the formation of deep or superficial, round or oval ulcerations, beneath a black slough and following upon a varicella or other pustule. Hyde (in primary forms) believes that there forms a vesicular lesion, with rosy areola that speedily bursts, leaving a blackish slough, about which a circle of eliminating inflammation

To Illustrate Dr. Lipes' Article on "Dermatitis Gangrænosa Infantum."

Albany Medical Annals, January, 1900.



spreads. Bullæ are sometimes present but differing from those of pemphigus by the deep inflammatory areola. Croker also reports hemorrhagic vesicles and large bullæ in grave cases, and cites a case of a girl of two years in which the eruption was at first distinctly bullous.

When vesicles become pustules, crusts are often formed which are quite adherent and on removing them a loss of tissue is seen. The ulcers usually have sharp but not undermined edges, often presenting a punched-out appearance. Sometimes there may be only small discrete areas of inflammation ending in necrosis. Severe losses are usually produced by a species of coalescence of smaller ulcers. The wider the slough the deeper the ulcer. When the crusts or sloughs have disappeared, reddish or purplish marks or pigmentary stains indicate for a time the seat of the previous lesion.

Location of lesion.—From the cases studied it appears that the lesion is mostly localized upon the lower parts of the abdomen, upper parts of buttocks and less often upon the face and scalp. The hands and feet in the acute form of gangrene are generally left free.

Pathology.—As to the pathology, there is no doubt but that the lesions supervening upon varicella[30] and other pustular eruptions in children are due to microbic invasion under certain constitutional conditions of which the febrile state, tuberculosis and probably congenital syphilis are the chief, but evidently cachexia is not essential. It might be interesting to note in this connection, since the subject of tuberculosis has been considered so thoroughly in the recent discussions of this society, that some of the writers claim that all these cases of gangrene are in tubercular subjects only. But others have noted cases which have come to autopsy where there was no tubercular lesion to be found. In the spontaneous forms we might think that microbic embolism would cause the lesion. This is the case in infectious purpura. The sudden paralysis of the arterioles commanding the vascular cones of the skin produces an intense congestive œdema of the region; the exudate compresses the capillaries, and, if it persists, the absolute localized anæmia produces the superficial necrosis.

Hyde thinks that the process is one which originally depended upon the toxic effects of specific cocci and evidently requires a special soil for its effective operation. Ehlers, of Copenhagen, has discovered the *bacillus pyocyaneus* (the "Baccillus des grün-blauen Eiters) in two cases of the secondary form. In a case of *pemphigus diptheriticus* with gangrene Oettinger found the same bacillus. But Neuman found it also in certain internal and cutaneous hemorrhages, while Lartigau[31] and others have found the same bacillus in other conditions. Greike[32] found in the primary lesions a micrococci in chains which innoculated in the mouse produced a septicæmia. Demme[33] attributed infectious gangrene to a bacillus which he found, not in the blood, but in the nodes of érythema, the vesicles, and in the gangrenous scabs, which innoculated in the guinea pig produced bullæ which became gangrenous and in these lesions the same bacillus was found. It will be seen that the pathology is still *sub judice*. In my own case I believe the lesions were due to a paralysis of the arterioles, as outlined above, and this was the primary manifestation of a toxic-neuritis caused by the presence or the elimination of some chemical product of the growth of some organism — in all probability the tubercle bacilli — which showed itself later in the tempory paralysis.

Symptoms.—There is no special train of symptoms. Besides the local conditions there may be severe constitutional disturbances. There is often high fever but this is not always in proportion to the area involved. When the gangrene appears, the fever usually disappears. Vomiting and diarrhœa are sometimes present and invariably albumen is found in the urine.

Prognosis.—The prognosis varies. In most severe cases, especially where long complications intervene, it is unfavorable. The so-called *pemphigus gangraenosus* usually results fatally[34] in ten or fourteen days. Nearly all the cases reported by Rotch[35] which occurred after varicella ended fatally.

Where the gangrenous areas are small and shallow repair commonly occurs, especially in the healthy children and those somewhat advanced in age.

Treatment.—The treatment of these cases is simple. The general system needs support and quinine and arsenic are without doubt the best remedies. Local antisepsis by the aid of boracic acid solutions and other antiseptics, such as aristol, iodol or iodoform will be sufficient. The sloughs should be removed. Camescarse[36] recommends an ointment containing salicylic acid, oil of turpentine, *et cetera*, for the pain of the spontaneous form.

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TUBERCULOSIS IN CHILDREN.*

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It is the purpose of this paper to deal in a brief manner with the clinical aspect of tuberculosis in children.

The disease presents some peculiarities in its course and its modes of attack when compared with the form occurring in adults. It is much more rapid in its development and frequently much more obscure in its symptomatology.

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*Read before the Albany County Medical Society, March 8, 1899.

The tuberculosis of children naturally divides itself into a general tuberculosis, and a tuberculosis of special organs.

No age is exempt from the disease. The belief that it is rare in infancy is no longer tenable. In fact, it is shown that it is much more frequently present at this age than at any other.[1] Even congenital tuberculosis is no longer to be doubted although of very rare occurrence.[2]

In speaking of the tuberculosis of children, we will restrict ourselves to the disease as it occurs in children not older than eight years. After that age, the disease does not differ materially from the form occurring in adults.[5] The predisposing facts may be found in tubercular parents, or in those who have transmitted a weakened condition to their offspring by having become infected with syphilis, or weakened by alcoholism.

The city reared child, from its frequently unsanitary surroundings and its great exposure to infection[4] is exceptionally prone to contract the disease, which may also follow in the train of any acute infectious disease. Local disease of the respiratory tract, such as bronchitis, pneumonia, chronic catarrhs and large tonsils and adenoids are also frequently of ætiological importance.

Not unusually, tuberculosis follows measles, whooping cough and influenza.

The acute general miliary tuberculosis of children frequently follows some local tubercular process. At other times, it develops rapidly and with extremely severe symptoms. Prodromal phenomena are of short duration and very vague. They consist of an irregular but not a specially high temperature, thirst, slight cough, if any, and a rather remarkable dyspnœa when the lack of lung symptoms is considered. These symptoms are quickly followed by high temperature, 103° to 105°, interrupted by as marked falls in temperature, 97½° to 97°. The patient wastes very rapidly, becomes cyanotic, restless and delirious, or on the other hand, apathetic and somnolent, without the occurrence of involvement of the meninges. The respirations are markedly frequent. Careful examination may reveal some enlarged lymphatic glands and enlargement of the liver and spleen. Soon there occur diffuse finely crepitant rales, but on the whole, the pulmonary lesion does not explain the high rate of respiration and cyanosis. Bronchial breathing is not present, nor are there any signs of consolidation. After death, which occurs very shortly, the post mortem examination reveals a diffuse miliary tuberculosis, attacking all organs excepting the brain and its coverings. This class of cases constitutes the most rapid form of tuberculosis in children and lasts from ten to fourteen days.

A second sub-acute form also exists. In these cases, the digestive symptoms are so urgent that they may at times cover the true pathological condition. There may be anorexia alternating with a voracious appetite; diarrhœa, alternating with constipation. Vomiting sometimes occurs. But in almost every case, there is present a cough of a hacking nature, pains in the chest and abdomen, rapid breathing combined with a certain amount of dyspnœa. The breathing and dyspnœa are here also entirely out of proportion to the small amount of chest lesions that may be discovered, consisting only, as they do, of slight catarrhal conditions. During sleep, sighing respiration and moaning occur frequently. The spleen increases markedly in this condition. As the disease progresses, the temperature becomes remittent at first, rising every third day, but finally remaining present every day, with an evening rise and morning fall. The temperatures are generally quite high. Death occurs as a result of œdema of the lungs or of an acute colliquative diarrhœa.[3] In the earlier months of life, tuberculosis may remain latent for some time. The children appear to be, as it is popularly termed, delicate. They do not increase in weight, or only slightly so. Much more frequently progressive emaciation takes place. Cough and temperature are not frequent. Some of these cases resemble marasmus so closely that it is almost impossible to differentiate them during life. However, in a number of these cases, the disease extends over a sufficiently long space of time to allow implication of the lungs to occur. We then find all the signs of pulmonary disease with temperature. The peculiarity of this temperature, however, consists in this, that it is never hectic, nor is it very high.[1]

Here again, as in the other cases, there is a marked increase in the number of respirations with dyspnœa and much more so than one can explain by the pulmonary lesions and temperature. The form of the chest disease in these cases is that of broncho-pneumonia, or a bronchitis. There are also a number of digestive symptoms that are, however, not at all characteristic. They are never or only rarely due to any tubercular infection of the intestinal tract, but rather to the lowered condition of the patient. These symptoms, for the most part consist of vomiting and of greenish diarrhœa. In another class of cases, occurring generally in older children, we find a period of greater or less duration preceding the tuberculosis, during which there are presented no other symptoms than a distaste for any exercise, considerable fretfulness and a persistent anæmia.

After this state is continued for some time, there appears a temperature of a sub-acute type, there is some dryness of the tongue, sordes on the lips and even delirium and a general typhoid condition. This form is not complicated with tympanites, nor are there, of course, any rose spots, a fact that should immediately suggest tuberculosis, as rose spots are only exceptionally absent in the typhoid of children. After several weeks, with the increase in the disease, it is possible to make out a focus in some one organ, in the large majority of cases, in the lungs. Or the process may be still longer deferred, the patient apparently recovering to a certain extent, but not regaining his full strength. If the temperature be taken regularly, it will be found that there is always present a certain amount of pyrexia. This may be called the remittent stage, and may last for some time, three or four weeks. Generally the patient becomes soon worse again, the temperature now becoming high, there being evening exacerbations and morning remissions, accompanied by wasting, until finally, there develops a broncho-pneumonia, tuberculous in its character, or less frequently, a meningitis or lymphatic infection of the same character.

Among the special organs of the child that may become tuberculous, the lungs rank first in importance and frequency of attack. Infection may take place in the lung itself or it may be secondary to the forms of general tuberculosis already mentioned, to a local tubercular process, to the acute infectious diseases or to repeated attacks of simple bronchitis or broncho-pneumonia. The tuberculosis may take the form of pulmonary miliary tuberculosis or of an acute, sub-acute or chronic broncho-pneumonia.

In the acute miliary tuberculosis of the lungs, the symptoms already mentioned under the head of general tuberculosis hold good. The asthenia, the high rate of respiration, the cyanosis, the irregular temperature, the slight catarrhal lung symptoms are all present. Typhoid symptoms develop frequently and are so marked that a diagnostic error is often possible until the development of a tuberculous meningitis clears it up. In the acute and sub-acute forms of broncho-pneumonia, infiltration is soon to be detected. This process is scattered over various small areas, generally in both lungs.[3] The patient suffers from a very distressing and incessant cough. The temperature is very irregular, the respiration is rapid, reaching 50 or 60 per minute.

A third form, a chronic tuberculous pneumonia, occurs, extending over several years.

The primary attack is slow in subsiding. The child is subject to that condition that is popularly termed a "cold." A very slight exposure produces a bronchial irritation with cough. In many cases the cough has not ceased with the primary attack.

Some dullness may persist over the area originally diseased. If the process has approached the surface of the lung, pleural friction sounds are constantly present.

In a few weeks or months, a second attack occurs with involvement of a fresh area of lung, generally contiguous to that implicated in the first attack. This again subsides partially leaving more pronouncd physical signs than the first.

These attacks may repeat themselves several times, until finally there occurs an attack of acute tuberculous pneumonia, or a miliary tuberculosis, especially after an additional infection with whooping cough or measles, a tuberculous meningitis, or a very extensive fatal simple acute broncho-pneumonia.[1]

Chronic tuberculosis with formation of cavities is not very frequent among children. When it does occur, it shows no noteworthy deviation from the process to be observed in the adult.

DIAGNOSIS.

The diagnosis is frequently very difficult, especially in early infancy. In many cases, the diagnosis is only possible at the autopsy table. When the family history and surroundings point to tuberculosis, we are justified in suspecting it in cases that present symptoms described under general tuberculosis. In differentiating from typhoid fever, the absence of rose spots and Widal's reaction will frequently establish a diagnosis of tuberculosis. If, in addition, there are present tubercles of the choroid, it will be certain. It will also be an aid to recollect that typhoid fever in children less than two years old is practically unknown, and therefore, suspected cases under this age are much more frequently tuberculosis than typhoid. Marasmus can generally be explained by improper food or want of care. In the wasting of tuberculosis of infants such causes may be wanting. In tuberculosis, diarrhœa and vomiting more frequently occur near the end of the disease than at the beginning. Fever is irregular and develops generally rather slowly. In the acute and subacute tubercular pneumonias, the differentiation from simple pneumonia is made oy the resistance of the disease to treatment, the great wasting, the marked infiltration of the lung tissue and possibly the complication of tubercular meningitis.

The sputum, when obtainable, which, will be rarely so, will at once definitely decide the question. At other times, it may be possible to obtain tubercle bacilli from the feces, when of course implication of the stomach and intestines must be excluded.

PROGNOSIS.

The prognosis of the general forms is absolutely fatal. Of the other forms occurring in the lung, the prognosis is always bad, although there are undoubtedly cases that recover.

PROPHYLAXIS.

Since children so readily contract the disease and so speedily succumb to it, it is of the utmost importance that proper prophylactic measures be instituted wherever the surroundings are such that the infant may become contaminated. All sputum from tubercular individuals about the infant or child should be rigidly collected and destroyed. Tuberculous patients, including the mother especially, should not be allowed to kiss the child, nor should the mother in such a case nurse the child.

In the selection of a wet nurse, the greatest care should be exercised in obtaining a woman about whom there is not the slightest suspicion of tuberculosis.

Milk from dairies not under constant veterinary supervision should be exposed to a temperature sufficiently high (170 degrees) to destroy any possible tubercle bacilli.

Occurrences of inflammation of the mucous surfaces, especially of the respiratory apparatus should be watched with the greatest care. The danger of infection with measles and pertussis should be avoided. Enlarged tonsils, adenoids and the ordinary diseases of the nose and throat should receive the earliest possible attention. The child should be early accustomed to outdoor life. The living rooms should be kept at an equal temperature. They should never be overheated. The diet should consist of the most nutritious foods, such as milk, and at the proper time, of eggs and beef. In the winter, it is wise to add to these, a pure cod liver oil, not emulsified.

TREATMENT.

After the tubercle bacilli have once gained entrance, the child should be removed, if possible from the city to a dry, warm climate. If this is not possible, he should be taken into the air as much as possible, no matter, if there is present fever or cough. In his home, he should have the airiest and sunniest room at his disposal. As a diet in th s case, milk ranks first. When digestion is unable to do its work, some preparation of milk, as Koumyss or Matzoon, may be substituted.

Among drugs, but two can be said to be of service. They are cod liver oil and creosote.

In very young children, creosote is best given in an emulsion and in very small doses, ¼ to ½ drop. In older children, this dose may be doubled or trebled. When the oil is not well borne, inunctions may be used.

Hypophosphites, arsenic and iron may be used in some cases, but in many they are not well borne.

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Clinical and Pathological Notes

A Case of Splenic Myelogenous Leukæmia with Autopsy.— Cases of leukæmia are sufficiently uncommon to warrant the publication of any case that may have come to autopsy. This case is of interest because of the presence of a greatly enlarged spleen at a time when the blood examination showed only slight hyper-leucocytosis. The presence in the blood of the following forms of leucocytes, myelocytes, mastzellen, and eosinophiles made the diagnosis leukæmia very probable at a time when it would have been difficult to decide between leukæmia and splenic anæmia, so called Banti's disease. It is to be regretted in this report that the autopsical notes could not have been followed by those of a careful microscopical study of sections of the various organs. Small pieces from all the organs were removed but owing to changing my residence they were unfortunately lost in moving.

August 1, 1892. Mrs C., aet. 55, housewife. Father and mother died of old age. Two brothers living and in good health.

Personal history: Had whooping cough and measles in childhood otherwise has always been healthy. Twenty-six years ago she lived in a malarial district, but has never had chills and fever or other evidence of malarial infection. Menstruation appeared at sixteen and had always been regular until the age of forty-nine, when it ceased. It lasted only two days, was never profuse, and was without pain. Patient married at 39. Has had but one child, a boy, aet. 13, living and in perfect health. Never had any miscarriages.

In June, 1892, patient suffered from what she believed was an attack of la grippe; had severe pains and aches throughout her body. These pains continued about four weeks when she noticed a fullness in the upper left quadrant of the abdomen. This swelling seemed more apparent on rising in the morning, and was attended with a considerable degree of abdominal distention. During this attack there has been a gradual loss of flesh and of strength. Her appetite has gradually diminished and she became very pale. This condition of extreme weakness, slight emaciation and pallor with loss of appetite, coupled with shortness of breath, pain and discomfort in her abdomen, has continued until the present time. No hemorrhages from the nose, gums, mouth, rectum or uterus have ever occurred. During the course of her illness a watery diarrhœa has occurred, which has been very difficult to control. Never has had headache or dizziness, but palpitation and dyspnœa are quite marked on the slightest exertion. Patient is troubled with hemorrhoids. Has noticed no difficulty with vision. Hearing is acute.

August 1, 1892. Present condition: Patient is 5 feet 7 inches in height, weight 130 pounds, rather tall and slender. Is extremely pale; lips, ears, finger tips and buccal mucous membrane appear almost bloodless. Limbs moderately developed, but muscles are very flabby. Abdomen protuberant in epigastric, left hypochondriac and inferior axillary regions. No lymphatic enlargement; neither tonsils nor papillæ of tongue are enlarged. Veins of chest and abdomen not visible. No œdema of face or ankles. No evidence of cranial nerve involvement. Ophthalmoscopic examination negative. Drum membranes appear normal. No defect of hearing. Reflexes normal. Examination of lungs negative. Nerves or muscles not tender on pressure. Liver dulness normal. The organ not tender on forcible percussion. Heart's apex in fifth interspace, within mammary line. No increased cardiac dulness. A soft, strictly localized systolic murmur is present in the second left intercostal space. Heart sounds are normal; pulse regular and full. Marked venous hum in both sides of neck. The upper left quadrant of the abdomen presents an area of dulness extending from the level of the eighth intercostal space downward to the level of the umbilicus and laterally to the posterior axillary line. On palpation a distinct tumor-like swelling is felt, tender, but firm and moving on inspiration, which, from its position and form is doubtless the spleen. No friction fremitus or murmur could be heard connected with this swelling. Marked tenderness on percussion of the sternum and long bones is present. The urine, apart from containing an excess of uric acid, is perfectly normal.

Examination of the blood showed only a moderate leucocytosis, the ratio of whites to reds being 1 to 40. No poikilocytosis, no nucleated red cells. No differential count of the white corpuscles was made; there appeared, however, to be about an equal number of mast cells, neutrophiles, myelocytes, together with a few eosinophiles.

February 17, 1893. Patient's condition has remained about the same, with periods of apparent improvement, soon to be followed by periods in which all the symptoms were aggravated. Blood examination showed hæmoglobin, 55 per cent; red cells 3,140,000; relation of whites to reds, 1 to 15. No deformity of red cells. A few nucleated reds were observed. The leucocytes consisted mostly of mastzellen, myelocytes, large lymphocytes, together with a few eosinophiles and polynuclear cells.

May 18. All symptoms decidedly worse, extreme pallor, peripheral veins distended, soft œdema of the ankles. Body considerably emaciated, sternum and long bones exquisitely tender on percussion. Bones of skull not tender on percussion. No hæmorrhages have occurred, no patches of purpura. Has had of late marked feelings of weakness and depression and several attacks of faintness, without loss of consciousness. Splenic dulness extends from posterior axillary line to left iliac region, the spleen evidently resting in the iliac fossa. Liver dulness extends 1½ inches below free border of ribs. No enlarged lymphatic glands detectable. Soft systolic pulmonic murmur; venous hum in both sides of neck. Background of eyes normal; hearing perfect.

July 2, 1895. Patient more emaciated; face very thin; sub-conjunctival tissues œdematous. All the superficial veins are greatly distended. Slight pulsation of jugular veins exists. Beneath middle third of right clavicle is situated a lymphatic gland of moderate size, which has developed during the past few weeks. No other lymphatic glands palpable.

Has had, during past few months, many faint attacks. Ankles very œdematous. Splenic dulness extends vertically from the sixth rib, in mid-axillary line, down to left iliac fossa, and transversely from post-axillary line to an inch to the right of the umbilicus. Region of liver very tender on percussion; enlargement, *vide supra.* General bone tenderness as before. An irregular febrile movement was noted, ranging from 100° to 130°. Dulness at base of chest due to slight hydrothorax. No ascites. Cardiac dulness not increased. Urine contains no albumen, sugar, casts or blood; uric acid increased.

Blood examination: Hæmoglobin, 40 per cent. Red cells, 2,135,000 per c. cm. Nucleated red cells present. Ratio of whites to reds, 1 to 5.

Differential count of whites:

Myelocytes	46	per cent.
Mast cells	15	"
Large monocellular leucocytes....	10	"
Small " "	12	"
Eosinophiles	5	"
Polynuclear leucocytes...........	12	"

July 20. No material change save patient is much weaker; remains absolutely recumbent. The slightest exertion brings on marked dyspnœa. Face much swollen; lips, mucous surfaces and finger tips livid. Temperature, 102½°. Respirations 40. Pulse, 90, soft, easily compressible but regular. No muscle or nerve tenderness; reflexes normal. Vision perfect. No evidence of leukæmic retinitis; hearing excellent..

Patient died rather suddenly on July 25. *Autopsy* 5 hours after death, by Dr. Donald Buchanan: General emaciation. Skin of a light yellow hue; soft œdema of hands, arms, feet and legs. No rigor mortis: slight post-mortem lividity in dependent parts. Slight panniculus adiposus. Muscles of thorax and abdominal walls pale and atrophic. Intestines universally tympanitic, peritoneal surface glistening and free from adhesion. A small amount of free fluid in peritoneal cavity. Stomach undersized and very pale. Liver enlarged; right lobe reached two inches below costal margin. Gall bladder contained about an ounce of yellow bile free from stones. Cystic and common duct patent. Liver, on section, appeared pale as if fatty. Lungs œdematous, slight pleural adhesions; small amount of serum in chest cavities, otherwise normal. Bronchial glands not enlarged. Pericardium contained about three ounces of fluid. No evidence of former pericarditis. No adhesions. Heart not enlarged. Myocardium soft and flabby. The slight sub-pericardial fat was of a greenish yellow hue. Right auricle and ventricle contained a very large chicken fat clot of grenish hue. Blood in chambers of left heart fluid, valves all appeared normal.

Myocardium of a pale brown color, and very soft. Kidneys of normal size, capsules unadherent, normal relation between the pyramidal and cortical substance. Spleen very large, filling whole left side of abdomen and extending into right side. Capsule apparently thickened, and contained numerous points of perisplenitis. Splenic substance was very friable, its outer surface was of a deep blue color. No infarcts were discovered. No enlarged lymphatic glands. The bone marrow taken from the tibiæ and sternum was of a yellowish color.

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VIENNA LETTER.

VIENNA, AUSTRIA, *November* 20, 1899.

One of the great privileges of medical study abroad is the opportunity of hearing the great teachers and of seeing their methods. In the realm of internal medicine is this especially instructive. A foreigner cannot receive personal instruction from these men and the only chance to see and hear them is to attend their lectures. These are purely clinical and I have yet to hear a didactic lecture on medicine. The general plan is to call down a student who questions and examines the patient and is in turn questioned and examined by the professor, who goes over the case very thoroughly, dwelling especially on the physical examination and differential diagnosis. Neusser, of Vienna, is the only professor I have heard who does not have a student "on the rack." Erb, of Heidelberg, is by far the hardest, while v. Ziemssen, of Munich, is very considerate of the medical student's feelings and does not hold him up to the ridicule of the class as does Erb frequently and Nothnagel occasionally. In the Allgemeines Krankenhaus in Vienna the *hœrsaale* are a blot on the clean page of modern hygiene. Imagine if you can a room not very large with the seats raised in the form of an amphitheatre with a small pit in front and the back seats almost reaching the ceiling, then six large double windows all stuffed with cotton, a blanket placed between to prevent "draughts" and a large red hot stove under the seats on one side of the room. Then add to this picture the effect upon the atmosphere of a large number of out-patients sitting in the passage under the student seats, and about three hundred medical students, and you may get some idea of Nothnagel's clinic. The only seats available for visitors and American physicians are on the top rows where the air is particularly foul and where one can hardly stand up on account of the low ceiling. It takes a great deal to compensate for enduring this atmosphere for two hours and to shake off an almost irresistible desire for sleep which steals over one. I feel that the privilege of hearing Nothnagel repays for the discomfort, but it is a great pity that better accommodations are not provided for one of the best teachers of medicine in the world. Professor Nothnagel is probably over sixty years of age and is quite active and stands throughout the entire clinic. This is somewhat in contrast with v. Ziemssen, who sits most of the time in an easy chair. Professor Nothnagel has a very pleasant face and expression and his white hair and beard give him quite a venerable appearance. When he enters the room the students rise and one is called down to examine the patient who is brought in bed from the wards. The student asks the patient a few questions and an assistant reads the history.

Nothnagel makes a mental note of the main points and later brings out their importance and bearing on the case. One of his axioms is that when there is a difference between the history and the objective findings it is safer to discredit the history and be guided by the examination. He goes over the patient from head to foot most carefully and systematically and examines first the organ or area complained of by the patient. He lays the greatest importance on the senses of sight and touch and claims diagnosis can very often be made by these alone. He grasps the main points of the case which he describes and illustrates with marvellous lucidity. He is like a master builder, who having made the foundations of the structure secure, adds to it stone by stone until the harmonious and stately edifice stands completed before the eyes. He makes no "snap diagnosis" and sometimes spends six hours in completing a case. His delivery is clear and distinct and not too rapid so that it is easy for a foreigner to follow his lectures. The clinic of Professor Neusser is rather different. Neusser succeeded Bamberger and is a much younger man. Very few students attend this clinic and the audience is composed mostly of medical men. He has an unfortunate delivery, speaking in a low tone with no inflections in his voice. He rarely looks up and seems to have a very nervous temperament. His clinic is more interesting than instructive and while there is no denying he is an excellent diagnostician yet he pays so much attention to the small points that it seems as if he went through the medical literature and learned only the foot notes and what appeared in small print. His memory is marvellous and in quoting cases bearing on the topic under consideration he will give the number of the bed and ward. The rivalry between the two clinics is amusing and the assistants, internes and nurses of one cannot believe that anything good can come out of the other and both hold their respective chiefs in the greatest adoration.

The K. und K. Gesellschaft der Aertze in Vienna have had a very handsome building erected for their use. It is near the General Hospital and is an imposing example of the Renaissance type of architecture. The K. and K. stand for Kaiserlich und Königlich, and anything to succeed in Austria must bear these mystic symbols. This society has succeeded as one will be convinced by attending their meetings and seeing how many physicians are present each week and hearing the excellent qualities of the papers read. The auditorium seats about four hundred and is well arranged. A visitors' gallery encircles the hall and down stairs it is surrounded by a corridor from which numerous glass doors open into the auditorium so that a physician can seek and speak with some friend without disturbing the others and it affords an easy mode of retreat when the papers become tedious. Around the ceiling are busts of famous deceased members of the society but occupying the posts of honor, one at each end of the gallery, are placed the marble busts of Skoda and Billroth as if they were the patron saints of medicine and surgery.

One hears of all sorts of "quack," bonesetters, osteopathists, etc., etc., but not until a few weeks ago did I hear of a sect of men without medical training who make their living by removing stones from the bladder. For want of a better term they might be termed stoneslicers. Dr. Preindelsberger recently enlightened the Gesellschaft der Aerzte as to their methods and armamentarium. He found one of these men in Bosnia who had inherited the secret of removing stones from his father. He had of late years performed over 160 stone operations with a mortality of 20 per cent. He was rather well versed in the symptoms and never operates until he has felt the stone bimanually by placing one finger in the rectum and pressing down over the symphysis. His instruments were only five in number, two knives, two forceps and a key-shaped instrument. He places the patient in the typical lithotomy position and has him held by strong men. He inserts the left middle and forefinger in the rectum and pulls down the stone as far as possible. He then cuts a little to the right of the median line and parallel with the urethra until he comes into the bladder. He then enlarges the opening and removes the stone. If it is attached to the bladder wall he loosens it with the key-shaped instrument and if it is very large he breaks it with the forceps and removes the fragments. In case of hemorrhage he injects hot oil or packs the wound with a hard boiled egg. The after treatment consists of hot water injections, strict diet, and application of a plaster. For the first three days he allows no water to be taken, nothing but rice and milk. Prolapses of the rectum occur frequently. He expects a good result only with the help of God, and if the death angel comes it does not trouble him.

The inspection of milk in Vienna is very strict and the people may be pretty sure of being supplied with the pure article. One of the largest dairies is that of the Wiener Mölkerei Gesellschaft, which has now in construction an enormous building in which they expect to handle 100,000 liters of milk daily. An opportunity was recently given me to visit this dairy with several physicians. All the milk is brought from the country where the cows are pastured and experienced men employed as milk testers sample each can. The milk is then strained and the greater part is run over ice cold coils and bottled in cold glass bottles, sealed, dated and stamped. Part of the milk is run through separators and the cream is Pasteurized, cooled and bottled. They also bottle the separated milk which is labelled "abgemagert Milch" and has quite a sale in the coffee houses. Another part of the milk is prepared for infants after the method of Professor Monti and is called "Säuglings Milch." This is very carefully prepared and Pasteurized. Throughout the entire establishment the greatest cleanliness prevails and the employes wear white duck suits and caps. This method of bottling the milk is greatly to be commended and its use should be more general in our country. For the mother who cannot nurse her own child a number of reliable fresh milk preparations are for sale throughout the city. There is the "Fettmilch" of Professor Gärtner, the "Kindermilch" of Dr. Backhaus, the "Säuglings Milch" of Professor Monti, and milk sterilized by the Soxhlet method. And yet eight out of every ten children who come to the dispensaries have rickets, or, as it is commonly called, "Englische Krankheit."

The Aertzliche Verein in Munich has issued a "Scherznummer" of the well known Münchner medicinischer Wochenschrift which is very funny. It is an exact representation of the Wochenschrift and the advertisements have the same form but are most cleverly worded. Among the original articles is one on "Der Antialkoholismus, klinischer Vortrag von Prof. Süfferlein" in which the antialcoholists are divided into two main groups: A, those who have had delirium tremens; B, those who have not yet had delirium tremens. These divisions are further subdivided and defined. Another laughable article is entiled "Die Laubfrösche im Darmtractus der

Katers" by Dr. Max Harmlos. The author claims to have carefully searched the literature to find something on the digestion of frogs in the stomachs of castrated tom cats but was not successful. His case was remarkable in that the tom cat was troubled with stomach disorders in fine weather. Palpation revealed two frogs in Thomas' stomach and their shape could be plainly mapped out by percussion and the characteristic croak was heard on auscultation. When the weather grew cold the tom cat suffered from bowel complaint and on one occasion during a thunder storm the frogs were detected in the colon. This remarkable case is worked up in a scientific manner and is quite humorous.

Der Lehrbuch der Serotherapie der Mondscheinheilkunde bei Dr. Mondkalb is very exhaustively reviewed. Among the reports of societies, etc., is found an account of the first Internationaler Feminälogen Congress with a synopsis of some of the papers. Fräulein Doctor Ohnelust occupied the chair and among the papers was one by Frau Doctor Männerlob on "die Schönheit des Männes." On closing, the Congress sang

"Die Welt wird schöner mit jedem Tag
Man Sieht es ganz genau
Wir sagen es, wer es nur hören mag
Die Frau gehört der Frau."

Among the Therapeutische Notizen is one on the Therapie der Sterilität. H. Umbug, M.D., Arizona, U. S. A., reports a case in which he had performed the Porro operation and for which on account of sterility and climacterium praecox he had prescribed extract of the uteri of rabbits, one half gram t. i. d. in a little milk. The result was extraordinary, for after four weeks treatment the patient gave birth to a healthy rabbit. H. L. K. SHAW.

PHILADELPHIA LETTER.

PHILADELPHIA, *December* 15, 1899.

To the ANNALS:

Upon first thought it would hardly seem profitable or interesting to many of your readers to hear of the medical life of a city so near home, especially after the many excellent letters you have published during the past year, dealing with the medical history, life and customs of the cities on the continent, and the medical and surgical technique now in vogue there. But one is induced to give his impressions of a "home" city for many reasons which may or may not be potent excuses. Some of the stolid institutions of our medical centers are not recent growths, and while they do not date back to the fifteenth or sixteenth centuries, they do go well into the eighteenth and have played a very important part in the development of our educational life. Our customs, technique and ideas are now receiving the merited recognition and commendation of the foreign masters and their followers. Our methods of work and progress in the art of teaching are rapidly making it unnecessary for a student to go abroad to receive advanced instruction. This fact alone is sufficient justification for dwelling upon the life in one of our great centers of technical learning.

Philadelphia ranks very high as a focus of medical work, observation and study. The atmosphere is wonderfully free from the wearing activity and nervous tension so common to large cities. The clinics are packed with available material and yet the methods employed in handling it are totally devoid of hurry or confusion and every feature of each individual case is placed vividly before the student. This is, of course, of unlimited value to the student and a feature which furnishes superior advantages for post-graduate work.

There are many old institutions; those of particular interest to the physician are the Pennsylvania Hospital, Wills' Eye Hospital, the Medical Department of the University of Pennsylvania and the College of Physicians.

The Charter of the Pennsylvania Hospital was granted by the Provincial Assembly May 11, 1751, and the corner stone laid in 1752. It was founded for the treatment of the sick and insane poor and the honor of being the originator is ascribed to Benjamin Franklin, though he himself gave the credit to Dr. Thomas Bond. In 1895, the managers printed a history of the Hospital from 1751 to 1895, which is fascinating to one who cares to dip into historic lore. One of the incentives for its foundation is shown by a brief quotation from the text of the history: "The opening of the

Pennsylvania Hospital inaugurated a new epoch in the treatment of lunatics in this country as it began by receiving them as patients suffering with mental disease, to be subjected to such treatment as their cases required, with a view to their ultimate restoration to reason, instead of simply confining them as malefactors." It also contains the text of the original charter, a fine photogravure of West's painting, "Christ Healing the Sick," numerous vignettes from photographic views of the hospital, letters from Dr. Fothergill of London, Richard Penn and Benjamin Franklin, who was the first clerk of the Board of Managers. From the day of its foundation, nearly one hundred and fifty years ago, it has kept pace with the progress of science, and to-day is a veritable nest of buildings showing the steps of advance in hospital construction and hygiene. In 1840, the Department for the treatment of the insane was transferred to West Philadelphia, where it occupies an extensive area. The hospital buildings proper are in the busiest part of the city, but a sense of restfulness controls the visitor from the time he raises the old bar latch at the gate to enter till he hears it fall behind him as he leaves. The ancient and worn stone steps leading to the entrance of the main building are alone enough to start a retrospective train of thought. One's feelings are best described by a verse from a poem by Francis Scott Key, "On Visiting the Pennsylvania Hospital:"

"Whose fair abode is this? Whose happy lot
Has drawn them in these peaceful shades to rest,
And hear the distant hum of busy life?
The city's noise, its clouds of smoke and dust,
Vainly invade these leafy walls that wave
On high around it, sheltering all within,
And wooing the scared bird to stay its flight
And add its note of joy to bless the scene:
The city's toils, and cares, and strifes are, sure,
Alike excluded here—Content here smiles
And reigns, and leads her vo'tries through the maze
Of flower-embroidered walks to bowers of bliss:
O! tis a sight to warm the heart of him
Who feels for men, and shares the joys he sees."

It has been stated here that this hospital is the oldest in the United States.

Wills' Eye Hospital, founded in 1832, is the oldest in the United States for the treatment of diseases of the eye exclusively. In 1898, 13,203 patients were treated there and about as many in 1899. The Department of Medicine of the University of Pennsylvania was established in 1765, and the College of Physicians, which is similar to the Academy of Medicine in New York, in 1787. So, we see that some of the institutions have grown from roots deeply imbedded in the past.

The undergraduate in medicine will find here many good schools and an atmosphere conducive to study. The post-graduate student will find a wealth of material in the clinics and wherever he goes will be received with courtesy and attention by the professors and instructors. In the clinics of the Philadelphia Polyclinic Hospital, which was organized in 1882, there are about 23,000 new cases annually and the matriculant has access to nearly all the important clinics in the city, viz.: Blockley, the Pennsylvania Hospital, Jefferson Medical College Hospital, Episcopal Hospital, Wills' Eye Hospital and others. He is enabled to study the work and methods of some of the best operators, clinicans and writers in the country and no day need pass without eight hours' work and as much of it can be practical as he chooses to make it.

The work of the men in Philadelphia in special lines has made a deep impression in this country and abroad and is no small factor in moulding the medical thought and practice of the period. Here can be found undoubtedly the best work on the eye and especially the most scientific and accurate methods of refraction in this country, if not in the world. Here also is the home of Retinoscopy in America and through the work of Jackson, de Schweinitz and Thorington that method has become the most exact for the detection and estimation of errors of refraction, especially astigmatism. Morris, Risley, Gould, de Schweinitz, Pyle, Oliver and Hansell have contributed extensively to the literature of ocular diseases. It has been noted by some of these oculists that the number of operations for cataract in Philadelphia is decreasing year by year and this is attributed to the fact of the careful work in refraction that has been done here for years.

Students and physicians are to be congratulated that there are such excellent facilities for good work so near home and that the time is rapidly approaching when they can get advanced work in *any* special line and at their very doors. The clinics and laboratories of Philadelphia, New York and Baltimore will supply every reasonable demand for working knowledge.

HARRY S. PEARSE.

Editorial

A School for Tropical Diseases

Among the responsibilities forced upon us by our present national policy of colonial expansion, none is more important than the care of the well-being of the various nations under our sway. "The white man's burden" is not alone military and administrative, but is in the highest degree medical. The diseases of the tropics with the pests and plague which devastates entire countries must be met and conquered. Great Britain has recently awakened to her responsibilities in this matter and has established two schools for the study of tropical diseases, one near London and the other at Liverpool. Germany, with her rapidly increasing colonial possessions, has formed plans for such a school at Hamburg, and France has one already in operation in Algiers. The United States too must face the responsibilities and meet this need. The medical officers in the United States service must be trained to combat all the different tropical diseases in which heretofore we have needed only to take a scientific interest. This skill must not be left to chance or individual industry but should be the result of a training instituted by the government to this end.

One of the first duties of this country is the establishment of a post-graduate school for the study of tropical diseases where medical officers of the United States should receive both scientific and practical training in the maladies which they will be compelled to treat. The appropriation for such a school should be liberal and the best medical men of the country should be invited to co-operate in making successful this work which will be potential in determining our capacity for governing semi-civilized races.

The Elective Diagnosis of Typhoid Fever

Piorkoski, a well-known bacteriologist of Berlin, has devised a method by which colonies of the typhoid bacillus can be distinguished from those of the colon bacillus. It consists of a so-called elective medium, one on which the typhoid bacillus will easily grow while other bacteria do not. This medium is composed of urine, which has undergone ammoniacal fermentation, with the addition of peptone and gelatine. Tubes containing this medium filtered and sterilized are inoculated with the suspected fæces. The contents are poured in Petri dishes and kept at a temperature of 22°C. for twenty-four hours. The typhoid colonies then appear as transparent filamentous bodies while the colon colonies are rounded with well defined edges. Piorkoski claims that the typhoid colonies can be recognized three days after the beginning of the disease and that in the twenty-six cases tested, his results were confirmed by the subsequent course of the disease. Although many of these elective methods have heretofore proved failures it is to be hoped that this present method which can also be used for the examination of water and milk may accomplish all that its author claims. The subject is now being rigidly investigated at the institute for infectious diseases in the Charité, Berlin, and it will not be long before its absolute scientific value is determined.

Scientific Review

The Antitoxin Treatment of Tetanus.—It is to-day generally agreed that tetanus, in its different forms, is a single disease caused by the spore forming bacillus discovered by Nicolaier in 1885. Kitasato was the first to cultivate the bacillus of tetanus in pure culture. Most of the animals used in ordinary laboratory experimentation are susceptible to tetanus infection, and thus it follows that the tetanus bacillus and its products have been made the subject of very careful study.

The tetanus bacillus is widely distributed in the soil, and in certain regions there seems to exist more or less of a local soil infection, regions in which tetanus occurs very frequently, as in parts of Long Island and New Jersey. The soil probably becomes infected from the feces of animals, since the tetanus bacillus is known to thrive in the gastro-intestinal tract of various animals. It does not, however, appear to be capable of setting up an infection from the gastro-intestinal tract.

All cases of tetanus are essentially of a traumatic nature, whether one speaks of cerebral tetanus, rheumatic tetanus, puerperal tetanus or tetanus neonatorum. A trauma always forms the portal of entry of the bacillus.

At autopsy, the tetanus bacillus is found only at the original site of infection, or occasionally in the regionary lymphatic glands. Not infrequently it is impossible to grow the bacilli from the original site of infection, due to the fact that they have died out.

At the portal of entry of the tetanus infection, are produced the toxines which find their way into the general circulation and give rise to the clinical signs and symptoms of tetanus.

From cultures of the tetanus bacillus, Brieger has isolated four toxines to which he has given the names of *tetanin*, *tetanotoxin*, *spasmotoxin*, and *acid toxin*. All of these toxines possess the power of reproducing the clinical symptoms of tetanus in a more or less marked degree.

The first successful attempts to render animals immune to tetanus were made by Kitasato and Behring. The immunity in the case of tetanus is not one against the bacilli but against the toxines produced by the bacilli, since they are the elements which gain access to the general circulation. The method practiced to produce immunity in animals is to treat the filtrate of tetanus cultures with the trichloride of iodine, or with Lugol's solution, which greatly reduce the toxicity. Animals are inoculated with this weakened filtrate and after the reaction has occurred, a stronger filtrate is inoculated, and so on until the animal has acquired an immunity to large quantities of pure, living cultures of the tetanus bacillus. It is the blood serum of these immunized animals which contains the tetanus antitoxin, and which is so extensively used to-day in the treatment of tetanus.

If a sufficient quantity of the antitoxin be injected into an animal at the same time that the animal is inoculated with the tetanus bacillus, tetanus will not develop. If, however, more or less of an interval elapses between the inoculation with the tetanus bacillus and the injection of the antitoxin the prognosis is unfavorable.

Behring in Germany, Roux in France, and Tizzoni in Italy have been the leaders in establishing the antitoxin treatment of tetanus.

Since the tetanus antitoxin was put upon the market several years ago, there have been a large number of cases of tetanus reported in which the serum therapy has been practiced. From a careful study of this literature some interesting and practical conclusions can be drawn. The important question seems to be whether the tetanus antitoxin is of therapeutic value after the symptoms of tetanus have developed, or whether it is of value only as a prophylactic measure.

Three methods of administration of the tetanus antitoxin have been practiced—subcutaneous, intravenous and intracerebral. The intracerebral method was proposed by Roux and Borrel and has been practiced chiefly by French surgeons. This method of administration of the antitoxin is based upon the idea that the nerve cells do not have the same affinity for the antitoxin that they possess for the toxin, and thus the antitoxin injected beneath the skin or into the vein, while it may neutralize the toxines in the blood, will not neutralize those in the nerve cells. The method is to trephine the skull and plunge a fine needle into the brain substance from 4 to 6 c. m., and to slowly inject from 1 to 6 c. c. m. of the antitoxin. This is also accompanied by subcutaneous injections of the antitoxin. Autopsies have shown that this method may, in some instances, produce areas of softening and degeneration of the cerebral tissue.

There are only relatively few cases in the literature in which strikingly good results have followed the use of tetanus antitoxin, and in most of these cases the antitoxin was used after the disease had existed a week, i. e., when the most dangerous period was past. Many observers maintain that the antitoxin has absolutely no effect on the disease, while some even go so far as to claim that it is injurious.

Holsti has collected from the literature 171 cases of tetanus which were treated with antitoxin, and of these 43.2 per cent. died. From the statistics of various observers he concludes that the mortality in cases of tetanus not treated with antitoxin is from 40 to 50 per cent.

Behring says that the results of antitoxin treatment depend upon how soon it is used after the first symptoms of tetanus appear. In answer to this claim that the antitoxin must be used very early in the disease, may be cited the 49 cases collected by Holsti in which it was used within the first two days and yet 69.4 per cent. of these cases died. The lowest mortality rate is in the cases treated late in the disease, when, naturally, the prognosis is more favorable.

The results of the antitoxin treatment of tetanus in all European countries, except Italy, practically agree. The Italian physicians and surgeons claim to have much better results with Tizzoni's serum, than have been published in any other country, but in the hands of English or German surgeons, Tizzoni's serum does not appear to give better results than that made by Roux or Behring.

In connection with puerperal tetanus some interesting facts have been recently brought out. Cases of puerperal tetanus are almost uniformly fatal. This seems to be due to the fact that the uterine cavity or vagina seem to afford a most favorable place for the growth of the bacilli and the development of the toxines. The opportunities for the absorption of the toxines in large quantities are also most favorable.

In Rosthorn's clinic at Prag, there occurred a severe epidemic of puerperal tetanus. The wards were closed and thoroughly cleaned and disinfected. A short time after they were reopened another epidemic broke out and again the wards were closed and disinfected. For some time past they have used protective inoculations with the tetanus antitoxine in all of their operative puerperal cases and have had no cases of puerperal tetanus in those thus treated.

The German veterinarians have long experienced much difficulty in their operations upon horses because of the great number of horses that develop tetanus after the operation. To obviate this difficulty, they now give the horses protective inoculations of the tetanus antitoxin before operation with the result that they practically never have a case of post-operative tetanus in animals thus treated.

In an epidemic of tetanus among animals, Nocard treated 375 of the animals with protective antitoxin inoculations and none died, while 55 other animals not treated thus succumbed to tetanus.

The chief reason for the lack of success in the antitoxin treatment of tetanus lies in the fact that when the symptoms develop, a large amount of the toxines have been produced and absorbed, and there is already a marked involvement of the nerve centers. We cannot expect the antitoxin to restore the nerve cell to its normal condition, and thus the administration of the antitoxin is followed by little or no improvement of the symptoms. The general consensus of opinion seems to be that the tetanus antitoxin possesses mainly an immunizing power, but does not possess very marked curative properties.

Tetanus antitoxin can restrain the extension of the process if it is used early enough and the process is not too toxic. It cannot, however, relieve the symptoms already present. It seems to have the power of preventing, in many cases, the involvement of nerve centers not already affected and of neutralizing the toxin present in the blood, which makes it evident that it is of value in some cases at least.

In tetanus antitoxin, then, we appear to have a drug that is of distinct prophylactic value and in uncomplicated cases of traumatic tetanus its administration may improve the prognosis and lessen the death rate.

It would appear especially advisable to use the tetanus antitoxin as a prophylactic measure when there is a possibility of the development of tetanus and especially when it is prevailing in more or less of an epidemic form. If the case of tetanus is seen early the immediate administration of antitoxin would appear in general to render the prognosis slightly more favorable.

ARTHUR W. ELTING.

In Memoriam

Charles E. Jones, M. D.

Dr. Charles Edmund Jones died at the Albany City Hospital, Dec. 1st, 1899, of cancer of the colon. He was the only son of Dr. E. Darwin Jones and was born at Albany, N. Y., February 15th, 1849. Dr. Jones was graduated from the Boy's Academy in 1866, and entering Hope College, at Holland City, Michigan, graduated with honor, receiving the degree of Master of Arts, in 1873. He began the study of medicine under the supervision of his father, and graduated from the Albany Medical College in December, 1873. Being filled with that high ambition, energy and determination to do in a thorough manner whatever he undertook, which ever characterized his life, he entered the New York Homœopathic College, and after a course of post-graduate study in that institution, spent the year 1875 in Europe, the major part of the time at the Vienna General Hospital. Returning to Albany, he entered his father's office and began at once the duties of his chosen profession.

He brought to his life work a well-trained mind and a great heart, that beat in sympathy with distress and suffering wherever found. With an energy that never tired, with a love for humanity that never faltered, and with a willingness to serve his fellow man found in few, he began a life work which crowned him at the age of fifty years with most of the honors the medical profession can bestow. His untimely death is a shock and sorrow to the community and a loss to the medical profession.

Dr. Jones was a prominent member in State and National Medical Societies, being elected president of the New York Homœopathic Medical Society in 1897, and while identified with the Homœopathic School of Medicine he was a broad, liberal-minded physician, whose skill and attainments in his profession, gained for him the high esteem of medical men regardless of school.

As a recognition of his valued services, the New York State Homœopathic Medical Society conferred upon him, in

1895, the highest honor in its power to bestow, that of its presidency. On assuming this office, Dr. Jones made one of its most notable addresses. It was a history of the efforts made during the preceding thirty years for securing higher standards of medical learning. It was one of the most instructive productions of its kind heard before a medical society, and was a testimonial of the learning and many-sided character of the man. He showed that as a result of the application of the provisions of the three-board licensing law, which had been enacted in 1890, the standards here established were as high as those of any other country. He was a voluminous writer, with forceful, effective style. In 1893 he was appointed by the Civil Service Commission a member of the Examining Board, to examine and determine the fitness of candidates for the position of physicians and superintendents of hospitals for the insane, and in June, 1894, he was appointed by Governor Flower a member of the first Board of Managers of the Craig Colony for Epileptics.

In all of these positions he performed his duties with fidelity and zeal, with honor to himself and signal aid to the various organizations with which he was connected.

Dr. Jones was prominent in social and masonic circles and few men held the place of affectionate regard in the hearts of those whom he served as did Dr. Jones. Kind and courteous always, and with an unceasing and generous devotion to those who sought his professional care, he was not only held in high esteem for his professional attainments, he was loved and will be deeply mourned by all who knew him best.

GEORGE E. GORHAM.

Medical News

Edited by H. Judson Lipes, M. D.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.— Meeting held December 13, 1899, in Alumni Hall. The following members were present:

Drs. Archambault, Ball, Blumer, Capron, Craig, Dawes, George, W. H., Hale, W. S., Hun, Jenkins, Lewi, Lipes, Macdonald, Moore, C. H., Moore, J. M., Mosher, Richardson, Root, Sheldon, Smith, R. J., Trego, Van Allen, Vander Veer, Wansboro, Washburne, Wiltse, Conley, of Buffalo; Swan, of Saratoga Springs.

CHARLES E. JONES, M. D.

The meeting was called to order at 9 P. M., the President, Dr. Van Allen, in the chair.

1. Reading of minutes of last regular meeting.

It was moved by Dr. Hun, and seconded by Dr. Ball, that as the minutes had been already printed, they should be adopted as printed. Carried.

2. No minutes of special meetings.
3. No reports of committees submitted.
4. No applications for membership were received.
5. No motions or resolutions were presented.
6. There was no miscellaneous business.
7. Reading of papers.

Dr. HENRY HUN read a paper on "Primary Endocarditis."

The President declared Dr. Hun's paper open for discussion.

Dr. DAWES: Dr. Hun's paper is of exceptional interest, but I think he has more support for his supposition of primary endocarditis than he cites. Fagge says that primary endocarditis rarely occurs. Quimby says that it does occur but not often. Strumpell also states that it occurs.

Dr. VANDER VEER: We should like to hear from Dr. Blumer on this subject.

Dr. BLUMER: I do not know that I have much to say on this subject. I think the paper is of value as illustrating a fact not recognized by the profession in general, i. e., that rheumatism in children is quite different from rheumatism in adults; that it may present almost none of the symptoms usually associated with the disease, practically no pain and no joint lesions. The subcutaneous fibroid nodules are especially liable to occur in children and stamp this case, I think, as rheumatic. As Dr. Hun uses the term Primary Endocarditis in this case, I think we certainly must recognize its possibility and I think the case is one of rheumatism attacking the endocardium before the joints. There is, of course, a good deal of structural analogy between the joints and the endocardial cavity.

Dr. MACDONALD: Last time I interfered in a purely medical discussion I got so badly used that I have a good deal of fear in entering into this one. It seems to me from the history of this case, that a variety of assumptions might be made. A bacterial origin cannot, I think, be excluded. Recent bacteriological examinations, particularly in surgery, have shown that the so-called idiopathic septicaemias and pyaemias really take their origin from some obscure lesion. The tonsils are favorite seats for such lesions and from what has been said, I think that the tonsils might have been the primary seat in this case. Streptococcus infections, particularly, are apt to occur in this way. I have read of such a case only a few nights ago in an article written, I believe, by Hare. In other surgical diseases, such as a mild case of gonorrhœa, the complication of endocarditis has been noticed. Formerly, reports of such cases were few in number, but at the end of last year one hundred such had been collected. A single isolated case of pneumococcus endocarditis, without marked signs of pneumonia, has also been reported. Without a post-mortem examination it is very difficult to decide the origin of such a case.

Dr. **Vander Veer**: This case has been to me exceedingly instructive. It is sometime since I have looked up the subject with care. From a surgical standpoint my experience has been that primary endocarditis is almost unknown. I have had the impression that it was always a secondary change. Typhoid fever gives a good many peculiar lesions and might cause it. Hereditary syphilis sometimes presents in a peculiar way. Lesions in so young a child as this may occur as a result of heredity. The uric acid diathesis should be thought of in this connection. I have listened to the paper with great interest, and the subject has been very clearly and concisely presented. I must admit that it convinces me that there is a primary endocarditis.

Dr. **Ball**: Some German observers, whose names I do not remember, and probably the same that Dr. Macdonald mentioned, have reported a case which was similar in many respects to Dr. Hun's. In their case the endocardium was infected and there was also marked evidence of rheumatism. I think that the temperature excludes syphilis in this case. I have no doubt that it was a case of rheumatic infection.

Dr. **Hun**: It was not my intention to cite the evidence in favor of primary endocarditis. I knew, of course, that many such cases could be cited and that the further back you go the more evidence you find. I wished to show that modern medicine rather recedes from this idea of primary endocarditis, perhaps, without sufficient grounds, and cited two modern text-books, Osler and the Twentieth Century Practice, as being, perhaps, the latest modern utterances on the subject, and as illustrating this standpoint. Of course, I am aware of the fact that most of the older writers recognized primary endocarditis. I must have expressed myself very poorly, if Dr. Macdonald got the idea that I did not think primary endocarditis of bacterial origin. I expressly pointed out in the paper that the toxic origin of endocarditis was no longer held, and that bacteria were, probably, always present. Of course, these bacteria must enter somewhere and the tonsils are possibly a frequent site for entrance. They sift out many bacteria, but, probably, allow some to pass through. In this case, I think, the evidence was in favor of the bacteria of rheumatism. As far as I could make out, there was no local evidence of a point of entry. The remarkable points about the case were that no joints were attacked, but the endocardium was primarily attacked. Further than this, the case was under observation for some time, both before and after the endocarditis, which is unusual. Of course, we do not know what the bacteria of rheumatism are, but, assuming it to be a bacterial disease, the bacteria must travel a long distance from the point of entry to the joints. There seems no reason, then, why they should not attack the endocardium first, as they have no further to go to reach it.

Dr. **Macdonald**: The mistake in my case rose from the fact that I did not understand that the bacterial origin of rheumatism was established.

Dr. C. H. Richardson then read a paper on "The Best Methods of Preparation, Sterilization and Preservation of Materials Used in Surgical Operations."

The President declared Dr. Richardson's paper open to discussion.

Dr. Root: I don't know that I want to speak on this paper in the line of discussion, but I feel that it has been so complete and instructive that I cannot allow it to go by without offering my personal thanks. Those of us, who are not so intimately associated with surgery as the writer and Dr. Vander Veer and Dr. Macdonald, especially appreciate the benefit of such a paper. I offer my sincere thanks as one member of the Society, to Dr. Richardson.

Dr. Vander Veer: Mr. President, it has been a source of pride for me to listen to this paper. The surgery of to-day is not the surgery of thirty years ago. The advances which have been made have always come under my attention, and I have devoted a good deal of study to them. The methods described to-night have been the source of many conversations between Dr. Macdonald and myself for many years, and on many occasions. Infection has always been the terror of the surgeon, and was with us, when working under exceedingly unfavorable circumstances in the old hospital building. I remember many years ago, after a visit to Lawson Tait, bringing the Gamgee pad over to this city. This is the only old thing left in the dressings shown to-night, and even it is made in a different way from what it originally was. Everything else is new. When I introduced the Gamgee pad many years ago I was made the object of some merriment in connection with it, in the form of a humorous poem on the subject. If you read carefully the recent discussions on the subject of technique, you will find that the efforts of the surgeons have been, not only toward sterilization of the dressings, but also careful preparation of the hands, and of the patient. One Swiss surgeon even goes so far as to recommend the use of two knives, one for the skin incision and one for the deeper cuts. He does this because he believes that infection takes place from the skin, which must be very carefully prepared to avoid this. With regard to rubber gloves, Kocher thinks that some surgeons are so careful that the gloves are not needed, but that the gloves should be used by most surgeons. They interfere with the delicacy of touch, to a slight degree, in some abdominal operations, but still I agree with Kocher fully. We have had the nurses use them in the hospital lately with satisfactory results. There are many other points which might be discussed. Technique is of the greatest importance, and requires an amount of care and time which the surgeon of fifteen years ago did not dream of. The more we study technique, the better it is for the patient. The cylinders which Dr. Richardson showed are of great help, especially in work out of the city. They are of especial help, as by this means a complete outfit can be taken in a sterile condition. The outfit which we take to-day is very different from that which we took fifteen years ago. The Kumol method of sterilizing catgut required much investigation, but it is doubtless the best method. I recently talked with Dr. Clinton Cushing, of San Francisco, who said that he had good results with the catgut prepared in the old way with ether. Dr. Fowler, of Brooklyn, gets good results with catgut prepared with alcohol. There are a number of methods of preparation, but none so safe, I believe, as with Kumol. I shudder when I think of the care of instruments for office-work a number of years ago. Even now we see cases of infection of the scrotum after tapping with a dirty trocar, or of abdominal wounds after tapping, or cases of urethral infection following the use of unclean sounds. The general practitioner can gain a great deal by noting how these instruments should be cared for.

Dr. SWAN (of Saratoga): I have listened with interest to Dr. Richardson's paper. I listened for breaks in his technique, but did not find any. I am interested in the sterilization of catgut by Kumol, as I was present at the Johns Hopkins Hospital during the evolution of this method. I am glad that it is used in Albany. I know that it sterilizes the catgut and does not weaken it. It is important to have the apparatus used in surgery as simple as possible. Halstead has shown that catgut is not necessary. He uses silk and silver wire, still catgut is convenient and perfectly safe after sterilization with Kumol. I was interested in Dr. Richardson's description of preparing silk. In Dr. Kelly's operating-room the silk is not only sterilized by superheated steam, but it is also boiled with the instruments just before being used. This, I consider, an extra safeguard. I also boil silk worm gut. The sterilization of rubber gloves with formaldehyde gas interests me. I have had some doubt of the safety of this method, and have always boiled the gloves. If the formaldehyde method is safe, it is a great saving, for the gloves last much longer. I should have to have a good deal of personal experience with the formaldehyde method before I gave up boiling. I think that where we have pus, in a clean case, it is. as a rule, the fault of the surgeon.

Dr. MACDONALD: Perhaps I might be allowed to say a word or two about one or two matters connected with this subject. I feel personally hurt at Dr. Richardson's reference to the Kumol method in use here as the Clark method. The method used here is not the Clark method; it is modified in several particulars. The method of Clark is reliable for small-sized gut, but not for the larger sizes. We have the evidence of the Bender Laboratory that the larger sizes are not always sterilized.

Dr. Richardson was not very clear in his description of the details in the preparation of silk. The silk is dried and spooled and put in tubes, and after that is a second time placed in the autoclav for fifteen minutes. We have experimented a great deal with silk and our efforts have been toward the use of the smallest size compatible with safety. I think that in Albany we use smaller silk than at most places and are able to do this because our method of preparation does not weaken it. We have reduced the size used for tying large pedicles from No. 5 to No. 2. I think that where a non-absorbent ligature is used it should be the smallest possible. If you boil silk more than once, you destroy its strength. Our rubber gloves, after formaldehyde sterilization, we have had tested several times and we have had no growth. They have been tested immediately after the action of the formaldehyde and also after use, and were always sterile. They should, perhaps, be exposed rather longer than the time mentioned by Dr. Richardson. I consider this method of sterilization perfectly reliable. It lengthens the life of the glove one hundred per cent. The methods presented here to-night were long in developing, and the result of a great deal of labor. They are largely the result of a fight against an outbreak of sepsis, which occurred in Albany several years ago.

The PRESIDENT: The Chair has been very interested by Dr. Richardson's paper. As methods of sterilizing instruments, Dr. Richardson only mentions boiling in soda solution. This has the effect of destroying the edges of the finer instruments. In a recent number of the *Philadelphia Medical Journal* I saw an account of some experiments with liquid formaldehyde as a sterilizing agent. The author found that ordinary solutions had a corroding effect, but, if the formaldehyde solution is alkalinized, the instruments can be kept in it for months without corrosion. I would like to ask Dr. Richardson if he has seen the method tried?

DR. RICHARDSON: With regard to Dr. Swan's remarks on the boiling of silk with the instruments, I cannot see that this is necessary. The silk is sterilized and boiled once and transferred to sterile tubes with proper precautions. With regard to the rubber gloves, I made a number of experiments with these with eight or nine different varieties of bacteria. These were published in a paper by me in the *New York Medical Record*, I have forgotten for what date. The gloves always proved absolutely aseptic. They have been used in the Albany Hospital for some time and we rarely have pus. I have not tried the alkaline formaldehyde mentioned by Dr. Van Allen, so cannot say much about it.

The PRESIDENT: A movement to adjourn is in order.

It was moved by Dr. Macdonald, and seconded, that the meeting adjourn.

(Carried.)

GEORGE BLUMER,
Secretary.

T. F. C. VAN ALLEN,
President.

THE ALBANY MEDICAL COLLEGE ALUMNI ASSOCIATION OF GREATER NEW YORK.— The fifth annual meeting of this Association was held Wednesday, December 6, at the residence of Horace T. Hanks, M. D., No. 766 Madison avenue, for the purpose of electing officers for the ensuing year and to make arrangements for the annual banquet.

The following officers were elected for the ensuing year: President, Major James P. Kimball, M. D., Surgeon, U. S. A., Governor's Island, New York city (A. M. C., '64); Vice-President, Robert Macfarlane, '88, Long Island City, N. Y.; Secretary, Warren C. Spalding, '81; Assistant Secretary, Bernard Livingston, '99; Treasurer, H. F. C. Müller, '87, Brooklyn; Governors, one year, M. L. Rhein, M. D., D. D. S., '80; A. Parker Muir, M. D., '96; two years, Frederick Loughran, '90; William

F. Holcombe, '50; James Mitchell, M. D., '80, Cohoes, N. Y., President of the Albany Medical College Association, Member *ex-officio*.

On December 14, a special meeting was held, when it was decided to hold the fifth annual banquet at the Hotel Savoy on Friday evening, January 19, 1900, at 7 o'clock sharp. The previous banquets have been most successful and every effort will be made to make this banquet a most enjoyable one. All graduates, or those who have ever attended the College, are cordially invited to attend. Any information concerning membership in this Association or regarding the banquet will be gladly furnished by the Secretary.

DETENTION WARD FOR THE ALBANY HOSPITAL.— The Committee on Public Buildings of the Board of Supervisors, to which was referred the petition of the physicians of Albany county for a house of detention for insane patients in connection with the Albany Hospital, has recommended the following act for passage:

" *Resolved*, By the Board of Supervisors of Albany County:

" SEC. 1. There is hereby appropriated the sum of $20,000, or so much thereof as may be necessary, to be paid by the County Treasurer out of funds in his hands applicable thereto, and as hereinafter provided, for the construction and furnishing of a reception pavilion in connection with the Albany Hospital, for the detention and care of persons afflicted with mental and nervous disorders.

" § 2. The construction and furnishing of the pavilion shall be under the supervision of a committee of three members of this Board, two of whom shall be appointed by the President. The President of the Board shall be *ex-officio* a member and chairman of the committee.

" § 3. Such Committee is authorized to adopt plans and specifications, and let contracts after due advertisement for the same, as in their judgment shall seem advisable for the construction and completion and furnishing of the said building. Said contracts shall be let only to residents of the county of Albany.

" § 4. The County Treasurer is hereby authorized and directed to pay, upon the certificate of the said Committee, from time to time, the moneys hereby appropriated, not exceeding in all the sum of $20,000.

" § 5. No plans shall be adopted by said Committee until there shall be executed and filed in the office of the County Treasurer a contract between the Albany Hospital and the County of Albany, that the said Hospital will maintain and manage the said pavilion, and will agree to receive and accept for detention or treatment, in said pavilion, all public patients from this county, or any of the cities or towns thereof, upon the same terms as public patients are received and cared for from the various towns of this county at such Hospital, until relieved therefrom by act of the Board of Supervisors of said county. The President of the Board of Supervisors is hereby authorized to execute such agreement on behalf of the county of Albany.

"§ 6. The title of the said building shall be and remain in the county of Albany, and the building shall be subject to the inspection of this Board, and any of its Committees thereunto authorized by the Board.

"All of which is respectfully submitted.

"PHILIP BENDER,
"PETER WALKER,
"L. D. COLLINS,
"ABRAHAM L. JACKSON,
"*Committee on Public Buildings.*"

The bill was adopted as presented by the Public Buildings Committee, the only change being the reduction of the amount appropriated from $20,000 to $18,000.

CORONERS' PHYSICIANS OF ALBANY COUNTY.— At the meeting of the Board of Supervisors of Albany county, December 21, the following Coroners' Physicians were chosen for the year 1900: Drs. Mark S. Leavy and James M. Moore, of Albany; Frank Hinckley, of Westerlo, and Edward M. Bell, of Cohoes.

BUSINESS COMMITTEE OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.— The President of the Medical Society of the State of New York has appointed the following Business Committee, to whom all communications concerning papers to be presented at the next annual meeting, January 30, 31 and February 1, 1900, should be sent: Dr. Wendell C. Phillips, 350 Madison avenue, New York city; Dr. Henry L. Elsner, Syracuse, and Dr. Chauncey P. Biggs, Ithaca.

MATERNITY HOSPITAL AT NIAGARA FALLS.— Well-known architects of Buffalo are engaged in preparing plans for a Maternity Hospital, which is to be constructed and presented to the city of Niagara Falls by Benjamin F. Thurston, as a memorial of his wife, who died recently. The Hospital will be as well equipped and complete as any in the State. It will be located to the left of the Memorial Hospital, and will be of the colonial style of architecture. It will be divided into private and public wards.

SUSPENSION OF MEDICAL STUDENTS.— The entire senior class of the Medical School of Boston University was suspended from all recitations and lectures by the faculty on November twenty-fifth. The cause was the boisterous conduct of the class on two occasions when they were on their way to attend clinics at the Westborough Hospital for the Insane. This conduct was reported to the Hospital authorities, who made complaint to the school, charging the class with insubordination, and refusing to allow them to continue their clinical work at the Hospital. Dr. J. B. Sutherland, Dean of the School, requested an apology, which was refused. The suspension of the students followed.

PROFESSOR VIRCHOW'S JUBILEE.— The fiftieth anniversary of Virchow's labors as Professor Ordinarius in the University of Berlin, was celebrated in the hall of the Pathological Museum, which was constructed through his efforts. There was no banquet or similar social function, but the Senate of the University presented to the revered and honored professor an illuminated and illustrated address, the text of which was written by Professor Waldeyer. Virchow's wonderful achievements as scientist, archeologist and politician were recounted therein in flattering terms. Professor Virchow is now in his seventy-eighth year, and, in spite of fatigues of the celebration, participated during the evening in a learned discussion on organotherapy.

NEW EMERGENCY HOSPITAL AT BUFFALO.— The Emergency Hospital, which was established in 1883 as an adjunct to the Buffalo Hospital of the Sisters of Charity, has become inadequate to the present needs. Plans are being made for a new hospital, which will be thoroughly equipped, roomy and perfected in every particular. It will be four stories high, contain 100 beds, besides accommodations for nurses, et cetera. The operating-room will be located upon the fourth floor, which will be easily reached with modern elevators. There will be wards for general patients, separate wards for each of the railroads and private rooms will also be provided for such as require them. A noteworthy feature will be the stables at the rear of the Hospital, which will contain two ambulances under "quick-hitch" regulations, the drivers' apartments being overhead.

THE FIRST SUBURBAN SANITORIUM IN RUSSIA FOR INDIGENT TUBERCULOUS PATIENTS.— The Medical Society at St. Petersburg, after three years agitation of the subject, have succeeded in securing a sanitorium for indigent tuberculous patients. It is located at Taitzi, and built upon land given by the Emperor, who, also, contributed half a million rubles toward its establishment. It contains accommodations for twenty men and twenty women. In the treatment of the patients attempts have been made to realize all the advantages of good diet, abundant air, physical and moral repose, and agreeable occupation for such as are able to perform any labor. The success of the institution is shown by the fact that fifty per cent of the patients treated during the first year were markedly improved; twenty per cent were slightly improved, while sixteen per cent and fourteen per cent, respectively, were unimproved or died.

MORE MEDICAL OFFICERS IN THE UNITED STATES ARMY.— Surgeon-General Sternberg has prepared a bill for presentation to Congress providing for an increase of men in the Medical Department of the army. This increase is necessitated by the expansion in the military organization. The bill provides for an addition to the present corps of four assistant surgeon-generals, with the rank of colonel; ten deputy surgeon-generals, with the rank of lieutenant-colonel; thirty surgeons, with the rank of major, and eighty assistant surgeons, with the rank of lieutenant, who will have the rank of captain at the expiration of five years' service. These positions are to be filled by seniority promotion, in accordance with the established laws and regulations. Acting assistant surgeons, to the number authorized, are to be appointed, subject to the usual examination, for a probationary period of six months, during which they will attend the Army Medical School in Washington. At the end of this time, if their standing is satisfactory, they will be commissioned to fill existing vacancies.

PERSONAL.—CORRECTION: Inadvertently, in the notice of marriage of in the December ANNALS, the year of graduation of Dr. Charles E. Parish, of Maryland, N. Y., was given as 1896, instead of 1880.

—Dr. GEORGE H. JANES, of Westfield, Massachusetts (A. M. C.), has been appointed Medical Examiner for that district.

MARRIED: ROSE-EDDY.— At Providence, Rhode Island, Wednesday, December 6, 1899, Alanson Decatur Rose, M. D. (A. M. C., '89), to Helen Maud Eddy, daughter of Elmer Burtly Eddy, M. D. (A. M. C.), of Providence.

—Dr. GEORGE STANWIX (A. M. C., '98), who has been very seriously ill for some time, is now convalescent and is sojourning at Old Point Comfort, in the hopes that he will speedily be restored to health.

—Dr. JOSEPH A. LANAHAN (A. M. C., '99) has recently been appointed Resident Physician at St. Peter's Hospital to fill the vacancy caused by the resignation of Dr. Byron L. Sweet, who goes to Berlin, N. Y.

Book Reviews

Refraction and How to Refract: Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-glasses, etc. By JAMES THORINGTON, A. M., M. D., Adjunct Professor of Ophthalmology in the Philadelphia Polyclinic for Graduates in Medicine; Assistant Surgeon at Wills' Eye Hospital; Associate Member of the American Ophthalmological Society, etc. Three hundred pages, two hundred illustrations, thirteen of which are colored. P. Blakiston's Son & Co., Philadelphia. 1900.

The work is designed for the student and young practitioner of ophthalmology. It is written by a student and devotee of that school of ophthalmology which represents undoubtedly the highest plane of development and exactness of the science in America. The author has presented the essential principles of refraction in a clear and concise manner, on a wholly practical basis, eliminating the abstruse and theoretical problems which so often discourage the beginner and confuse the advanced student. Yet there are no sacrifices of necessary principles or axioms. It is the only book of its kind by an American writer and fills a long felt want. It is a practical instruction and working book for the student and those who cannot understand the classic works of Landolt, Donders, etc. On the other hand it is written in a style so attractive that the scholar can read it from cover to cover with pleasure.

The first chapter is devoted mostly to the essential principles of optics which are demonstrated clearly and briefly and in such a manner that failure to understand them is impossible. The explanation of the new numbering of prisms now in vogue based on the centrad and prism-diopter will appeal to the older practitioner; the rules for changing the old focal length or inch system into diopters in the numeration of lenses may also give him satisfaction equal to the student's, because of their simplicity of expression. The rules for the combination of lenses will be found valuable to nearly every ophthalmologist. They are not found in the classics and to the retinoscopist are absolutely necessary. The thinest and lightest lenses and periscopic effects are produced by the transposition of formulæ according to rules easily understood and followed. Some useful points for the selection of test cards are given with the names of some, the letters of which are formed on the correct angle (five minute) basis. The writer states that many on the market are not correct.

In comparing the measurements of the eye with emmetropia the significant statement is made that: "An eye, to be emmetropic, * * * no matter what its length, *must* have its refractive apparatus of just such strength that, in a state of rest, the principal focus will coincide exactly with the cones on the fovea."

Sixteen tests for the detection of astigmatism are given, some of which can be used for estimating the degree, the author expressing his opinion of the scope and merit of each test. The colored illustrations of the chromo-aberration or cobalt-blue test and the colored diagram showing the foci of the red and blue rays are excellent as well as very instructive. The ophthalmometer as a means of diagnosis is considered as "suggestive rather than positive." The writer says that in point of fact the instrument is a "Keratometer" and as such, cannot be excelled, but that lenticular astigmatism is not to be ignored as it will often increase, diminish or even neutralize corneal astigmatism and that the ophthalmometer is more often useless than of real value in estimating the *total* refractive error. Retinoscopy is considered the test *par excellance* for the detection and estimation of astigmatic or any other refractive errors and a separate chapter is devoted to its description. The principles of and the methods of using both the plane and the concave mirrors are given but the author refers the student who would avoid confusion to his separate work on "Retinoscopy with the Plane Mirror." He does not favor the movement of the observer till he finds the point of reversal but simplifies the test greatly by the rule, "If the surgeon will always refract the patient's eyes so that he gets the point of reversal at one meter distance, he will have the following rule to guide him—i. e.: To add a —1 sphere to the dark room correction, no matter what that may be."

The consideration of muscles is elementary in character and deals principally with the relation of refractive errors to muscular anomalies. The retinoscope is considered by far the most efficient and reliable means for estimating refractive errors in strabismus as "most cases of strabismus appear in children, and, too, the squinting eye, often being amblyopic, cannot assist in the selection of the glass."

The illustrations are mostly from original drawings by the author and elucidate the text admirably. Cycloplegics are differentiated from mydriatics; the cumbersome word "hypermetropia" is replaced by "hyperopia," and the work is replete with "points" which would be of great value to the beginner.

The last two chapters are devoted to presbyopia, aphakia, anisometropia, spectacles, the ordering of lenses and instructions for measuring and fitting frames. To the student we cannot recommend the work too highly; it will save him much time and many discouragements and pave the way to a better appreciation of the advanced works. The surgeon with greater knowledge could enjoy an evening with the book and not without profit.

H. S. P.

A Practical Treatise on Materia Medica and Therapeutics. By ROBERTS BARTHOLOW, M. A., M. D., LL. D. Tenth Edition. Revised and Enlarged. New York: D. Appleton & Company. 1899.

Dr. Bartholow's Materia Medica and Therapeutics has been a standard work for twenty-five years. It is one of the few books whose arrangement and scope really meet the double purpose of a text-book for colleges and a reference book for practitioners, and the latter will feel a debt of gratitude to the author that their favorite work has been kept up to date. The eighth edition, published in 1893, was newly edited to meet the revisions of the United States Pharmacopœia, and many new remedies were discussed, especially the synthetic products. In that edition a tabular statement of the metric system and its equivalents in the Troy measures was published. The ninth edition (1896) was enlarged by forty-five pages, in which the synthetic products were more completely exploited. The tenth edition is again an author's revision. and not a reprint. Newer remedies have been added, errors have been corrected, and a special article on prescription writing has been inserted. The propriety of this can hardly be questioned, the less that it is made available for physicians not versed in Latin by the clearness and succinctness with which the subject has been treated. Genitives and accusatives are always troublesome elements in formulating the rhetorical prescription, and the rules cited will assist the novice. The following illustration, given by the author, appears to be faulty:

℞ *Pilulæ Catharticæ Compositæ, No. xii.*

In such prescription the accusative would be preferable as there is no other noun for agreement of the adjective, aud the Latin construction is more properly represented by

℞ *Pilulas Catharticas Compositas, No. xii.*

One feature of Dr. Bartholow's book deserving special commendation is the section on diet and alimentation. This includes chapters on "The Physiological Relations of Food;" "Special Plans of Diet;" "Alimentation in Disease," with formulæ; "Artificial Digestion;" and "Beverages."

It is a pleasure to state, without reservation, that this work easily maintains its high place among the best, and that its conservatism will be most acceptable to practitioners who are skeptical upon the fads and fashions in medicine which follow each other with such bewildering rapidity in these days of fancy pharmacy.

The Surgical Diseases of the Genito-Urinary Tract, Venereal and Sexual Diseases. A Text-book for Students and Practitioners. By G. FRANK LYDSTON, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department of the State University of Illinois; Professor of Criminal Anthropology in the Kent College of Law; Surgeon-in-Chief of the Genito-Urinary Department of the West-Side Dispensary. Fellow of the Chicago Academy of Medicine; Fellow of the American Academy of Political and Social Science; Delegate from the United States to the International Congress for the Prevention of Syphilis and the Venereal Diseases, held at Brussels, Belgium, September 5, 1899, etc. Illustrated with 233 Engravings. 6½ x 9¾ inches. Pages xvi–1024. Extra Cloth, $5.00, net. Sheep or Half-Russia, $5.75 net. The F. A. Davis Co., Publishers, 1914–16 Cherry St., Philadelphia.

This treatise on genito-urinary, venereal and sexual diseases is a new candidate for professional favor. Its text is based on twenty years of experience as a practitioner and teacher along this special line and on some sixty special articles and monographs published by the author at various times since the year 1883.

It would be unfair to adopt any other standard of comparison than that chosen by the author himself. In the preface he says "No attempt has been made to cover the literature of the various subjects comprised in this volume. The endeavor has been to give a practical survey of the field of genito-urinary and venereal disease." Judged by the author's own standard Professor Lydston has succeeded in presenting to the profession an exceedingly useful and valuable reference work. The book is written in an easy, flowing style and can be perused with pleasure as well as profit by all those who desire to have on their shelves a practical, modern and conservative book of reference on genito-urinary disease. The work is fully abreast of the latest theory and method in the practice of this special line.

As a work for students, however, one would feel that this book is a little beyond their knowledge and experience and that more satisfactory results would follow the study by them of the more condensed hand books, books dealing more with classification and few essential facts rather than books written from the standpoint of experience.

Part one deals with the general principles of genito-urinary, sexual and venereal pathology and therapeutics, and presents among others a chapter on genito-urinary and sexual hygiene, one on the bacteriological relation of genito-urinary infection and one on urinary fever. Much valuable and recent information of practical interest is contained in this latter chapter and one is thoroughly impressed with the soundness of the doctrine and the completeness of its presentation. The whole subject of urinary fever is offered in a most admirable, modern and satisfactory way.

Part two deals with the non-venereal diseases of the penis, part three with diseases of the urethra and gonorrhœa. The profession will be interested in the following opinion of Professor Lydston's: "Physicians should embrace every opportunity to impress the patient with the fact that gonorrhœa is one of the most severe and perhaps *the* most far-reaching in its results of all the infectious diseases. It is not only worse than a bad cold, contrary to the lay opinion on the subject, but it is far worse than its much-dreaded rival for venereal popularity—syphilis." Professor Lydston gives full consideration to the variations in the type of gonorrhœas due to mixed infection and in considering the complications of gonorrhœa recognizes "the possibility of mixed infection in stricture." We commend the practical, common sense way in which the author speaks of the reflexes produced by stricture and other diseases of the urinary tract.

Part four deals conventionally with chancroid and its complications, while part five presents, through one hundred and thirty-seven pages, a most complete presentation of syphilis, its sequelæ and treatment. Almost every sentence contains a concise statement of some of the enormous collection of facts accumulated in connection with this protean disease. The chapter on the action of mercury in syphilis is most complete, scholarly and convincing.

Part six presents the "avoided" subject of sexual physiology, part seven, the diseases of the prostate and seminal vesicles, part eight, diseases of the urinary bladder, part nine, those of the kidney and ureter, while part ten completes the work with an admirably written chapter on the diseases of the testes and spermatic cord.

Taken all in all Dr. Lydston is to be congratulated on the results of his labors and his book will be a valuable addition, as a work of reference, to the library of the busy practical practitioner.

The plates are scarcely worthy of the book while the letter press is satisfactory. J. D. C.

Current Medical Literature

MEDICINE

Edited by Samuel B. Ward, M. D.

Weil's Disease, with a Short Experimental Study of Infective Icterus.— Dr. HARLOW BROOKS, in a paper before the New York Pathological Society, said that Weil's disease was characterized by a sudden onset, usually with chill and always with high fever. The violent onset differentiated Weil's disease from typhoid fever with jaundice. The temperature falls by lysis within eight or ten days and the other symptoms improve. Relapses are not uncommon. While it often occurs epidemically it is apparently non-contagious. The disease is almost certainly due to an infection, the source of which is undoubtedly putrid animal flesh. Butchers are commonly affected and those who frequently eat sausage. Healthy male adults, especially Germans, French and Russians, are usually the victims. The lesions are congestion and swelling of the spleen and lymphatics, parenchymatous nephritis, parenchymatous degeneration of the liver and marked icterus. There was a striking resemblance of a fatal case of Weil's disease to acute yellow atrophy of the liver and the microscopic appearances were much the same. It might easily be confounded with mild yellow fever. The bacteriological findings have been negative, although Jaeger, who has had two autopsies, isolated a germ which, when inoculated into mice, produced lesions similar to those of. Weil's disease. Dr. Brooks's case was a laborer, thirty-three years of age, who had been well up to six days prior to admission to the hospital. He gave no history of having eaten tainted meat. The disease began suddenly with fever and great pain in the muscles; then, three days later, there was marked jaundice with diarrhœa and nausea. Marked delirium appeared in a short time, then coma and, quickly, death. The most marked changes found post-mortem were in the liver cells: (1) The cells bordering on the larger capillaries of the portal system and medium-sized bile ducts were almost completely destroyed; (2) groups of cells were centres of degenerated liver lobules; (3) cells from the centres of the lobules more nearly normal, but granular and containing large fat spaces.

In the bacteriological examination of the liver and spleen two varieties of bacilli were found: (1) A rather short bacillus with rounded ends, staining best, but irregularly, with Loeffler's blue; (2) larger and thinner bacilli, but otherwise similar. Enormous cocci were present, but less numerous than the bacilli which resembled closely the diphtheria bacilli, were similar to those described by Jaeger and were pathogenic to guinea-pigs. The post-mortem examinations on inoculated animals showed the buccal mucous membrane to be yellowish, and that there was a clear yellowish fluid in the peritoneal cavity. The liver, spleen and kidneys were congested and degenerated. The bacillus was obtained in pure culture from the viscera. Experiments showed that the bacilli produced a toxin which causes the general lesions of the disease. Attempts made to inoculate animals by way of the gastro-intestinal tract were negative, except in the case of the monkey, which showed changes similar to those in the guinea-pig.

Weil's disease, acute yellow atrophy of the liver, yellow fever and phosphorus poisoning had similar lesions and almost identical symptoms. They were all dependent upon toxæmia, bacterial or otherwise. The pathogenesis in all was the same, although the specific exciting cause differed. The symptoms were probably due, at least in part, to the extensive destruction of liver tissue.

Affections of the Lungs in Typhoid.— A. FRANKEL, in the *Centralblatt für innere Medicin*, 1899, *No.* 4, shows that complications on the part of the respiratory tract are well known and that these affect not only the bronchi, but the lung itself, giving rise to the term "typho-pneumonia." The definition of typho-pneumonia is very variable. Rokitansky and Griesinger declare it to be a primary localization of the typhoid poison in the lungs, while other writers argue against this acceptation. In order to remove the confusion these cases can be divided in three groups:

(1) Fibrinous pneumonia, which runs with typhoid symptoms without typhoid being actually present.

(2) Complications of typhoid with pneumonia.

(3) Pneumonia which is the product of typhoid.

The first group is the so-called asthenic pneumonia of the older clinicians. There is a marked tendency to prostration and collapse, but they have nothing to do with typhoid. They are always true fibrinous pneumonias, but at times are centrally located. They often have no typical symptoms and may be accompanied by roseola. Complications of typhoid with pneumonia are rare occurrences. The writer has observed it only six times in 500 cases. The pneumonia may complicate any stage of the typhoid. Its recognition is very difficult, especially at the height of typhoid, since all the symptoms are masked, the temperature curve atypical and the expectoration usually absent. The diagnosis is easier in the stage of lysis. The author, by many bacteriological examinations, has determined that in these cases it is always a true pneumococcus infection. In regard to the third group, Fränkel believes it is not yet certain that there is a pneumo-typhoid, *i. e.*, a primary localization of the typhoid poison in the lungs. Curschmann, in his latest monograph, holds this opinion, but the writer believes that Curschmann has lobular and hypostatic pneumonias in mind and not the lobar. The presence of typhoid bacilli in lobular nodules, which he himself had first discovered, is explained by secondary migration into the lungs of typhoid bacilli circulating in the blood, and not by a primary development. Without doubt the typhoid bacilli can induce pneumonic symptoms, but a primary pulmonic typhoid is not to be diagnosticated. The outcome of these typhoid pneumonias is the same as primary pneumonias, but the conditions of contracture and bronchiectasis, which are less known, may result. The empyema accompanying typhoid contains at times typhoid bacilli and at other times is free from them, and owes its origin to a secondary infection. The true typhoid empyema has a relatively good prognosis.

Therapeutic Modification of the Gastric Secretion — By FRANZ RIEGEL. (*Zeit. für. klin. Med.*, *Bd.* 37, *Hft.* 5 *ü* 6.) The writer briefly reviews the results of previous experiments made to determine the effect of various chemical and medicinal substances upon the gastric secretion. The results of different observers are very contradictory, and the writer concludes that there is not a single substance to which all observers ascribe an influence upon the gastric secretion, either in the sense of an increase or decrease. The previous experiments have been made on men and on dogs. The fact that the vagus is the chief secretory nerve of the stomach having been demonstrated by Schneyer and Uschakoff, and, it being known that atropin paralyzes the vagus, the writer was led to try the action of atropin upon the gastric secretion. The experiment was made on dogs. The method practiced was to divide the dog's stomach into two separate compartments after Pawlow's method. Into one compartment he would introduce food, or food with the drug experimented with, and in the other compartment observe the process of secretion.

The drug was sometimes administered with the food and sometimes subcutaneously. He found that atropin markedly diminished the gastric secretion, both as to quantity and strength.

Pilocarpin, on the other hand, markedly increased the gastric secretion in quantity, while the strength of the secretion remained about normal. As a result of these experiments, he has used atropin in over eighty cases of stomach disease, in which he wished to diminish the quantity of the secretion, as well as the acidity, and has had excellent results.

He has also used pilocarpin in cases of diminished gastric secretion, but the action upon the salivary glands and sweat glands renders it less valuable as a medical agent in diseases of the stomach.

Visceral Syphilis.— C. THOREL, in *Virchow's Archiv* for *November*, 1899, discusses this subject. He remarks on the lack of statistics on syphilitic affections on the internal organs.

He cites Petersen's figures, who, in 21,757 autopsies, found signs of congenital syphilis in 2.3 per cent of all cases and acquired syphilis in only 1.8 per cent. He states that the statistics of Petersen are old and, perhaps, not founded upon sufficiently close pathological study. He also cites Stolper's statistics. In 61 cases of syphilis of the viscera the lungs were involved 5 times, the stomach once, the intestines 12 times, the liver 28 times, the pancreas 3 times, the kidneys 16 times and the heart 14 times. These statistics include both fibrous and gummatous changes. Thorel throws doubt on the chronic interstitial changes in this table. He thinks that the history and microscopical appearances of organs with chronic interstitial change should very strongly point to syphilis before they are classed as such, and that changes which might be due to some other cause should be left out of such tables. The author protests against a great many cases of so-called aortic syphilis being classed with this disease, and also many cases of tabes and general paresis. He holds that there is nothing definitely syphilitic about many of these cases from a histological standpoint, and that all such matters should be based upon anatomical and not on clinical findings. The author then reports two cases of his own: one of gummata of the pancreas, with chronic interstitial pancreatitis, and the other, gumma of the heart muscle, with chronic interstitial myocarditis. In discussing both of these cases, he states that there is nothing specific about the interstitial changes, and that without the gummata no definite diagnosis of syphilis could have been made. He further states that many such interstitial changes, not associated with gummata, are probably secondary to syphilis, that there is usually nothing specific about them histologically, though there may be peculiarities which lead us to suspect a syphilitic origin. He states that in such cases we should not make a flat-footed diagnosis of syphilitic lesion, but only state its probability. He thinks that we are only on the borderland of knowledge in these cases, and that definite gummatous changes must be present before an absolute diagnosis of visceral syphilis can be made.

Carbolic Acid Injections in Tonsilitis.— H. JUDSON LIPES (*New York Medical Journal, October* 21, 1899) has used a three per cent solution of carbolic acid in the treatment of follicular amygdalitis and the angina of scarlet fever with success. The cases included five of scarlet fever, six of diphtheria, three of suppurative, four of simple and three of follicular amygdalitis. In diphtheria no beneficial effects were observed. In scarlet fever immediate relief was obtained, with prompt reduction of the fever and improvement of the general condition. The method of procedure is simple. A few drops of the solution are injected into each tonsil at several points. A small syringe is used with a long needle, having a shoulder about four millimetres from the point. The shank and middle are together about six centimetres with the extremity turned at an angle of forty-five degrees, the elbow being about three millimetres from the point.

The Therapy of Bronchial Asthma.—(J. A. GOLDMAN, in *Wiener med. Wochenschr., October* 21, 1899.) The author reviews the different methods of treatment that have given good results up to the present time. But the most rational method, he thinks, is the inhalation treatment, and recommends particularly "Neumeier's Asthma Powder," which is made up of stramonium, lobelia, nitrate of soda, nitrate of potash, iodide of potash and white sugar.

The iodide of potash, he considers, a particularly valuable ingredient of the powder, as used in this way it causes no disagreeable after-effects.

Goldmann treated 45 cases of asthma in a year with this powder, and found that its inhalation, when burned in the room, caused an immediate relief of the acute paroxysms in every case. In 14 cases of true bronchial asthma he was able to cut short the attack each time, and a continuance of the treatment resulted in longer intervals between the attacks.

The Treatment of Gout. — In the *British Medical Journal* for *October* 28, 1899, BAIN writes that foods rich in nuclein and nucleoproteids should be forbidden in cases of gout, unless investigation shows them to be harmless. The gouty patient's diet should be determined by the condition of his alimentary canal and its annexes and how much exercise the patient takes, systematically, without fatigue. He declares it absurd to make the same rules for all gouty patients; that it cannot be necessary to abstain from all kinds of meat, since muscle is relatively poor in nucleoproteid and that vegetarians sometimes have gout. The efficacy of carefully regulated physical exercise in the prevention of gouty manifestations cannot be overestimated. This agent, considered by Sydenham of greater importance than diet or drugs, the author contends, is underestimated, and too much attention is paid to the so-called uric acid solvents. As regards the use of sodium salicylate, Bain agrees with Luff in believing it inadvisable, since the drug increases the excretion of uric acid at the expense of the leucocytes.

A Case of Chronic Trional Poisoning.— In the issue for the 2d of *October*, 1899, of the *Berliner klinische Wochenschrift*, DR. KARL VOGEL reports the eighth case of trional poisoning, the first, of the seven previously reported, having been published by Koppers, in his inaugural dissertation, at Würzburg, in 1893. In 1890 Bauman and Kast published the reports of their experiments on animals with trional and tetronal, after sulfonal had been found to intoxicate in many cases, especially affecting the kidneys.

The case reported in this article is that of a twenty-eight-year-old lady, unusually intelligent, given to literary pursuits; had traveled in South America and Dutch India; ten years earlier had suffered somewhat, for two months, from articular rheumatism. In the fall of 1897 had been troubled by insomnia; on the 15th of January, 1898, began taking trional, prescribed by a physician; by the third of the following June she had taken, at regular intervals, a total of 127 grams. It accomplished its purpose and was, at first, well borne. When received at the hospital she was very weak, felt as if about to faint, complained of severe, colicky pains in the trunk, especially in the left abdominal region. For the relief of these pains she had taken, during the last previous few days, subcutaneous injections of morphine and also some trional during the trip, lasting about eight hours, to Bonn, where is the hospital in which the author saw her. Pulse slight, weak, 120-130 per minute, but regular: respiration, normal; a tendency of the left leg to shirk duty. It is not as sensitive as the right leg; the region of the end of the sacrum is especially numb, deep needle pricks there not being felt. Eye and knee reflexes not changed. Patient can take only a few steps unaided. Previously there had been diarrhœa, followed by obstinate constipation. When received at the hospital the patient's bowels had not moved for several days. The Burgundy color of the urine was especially striking. It was slightly cloudy, acid; specific gravity, 1.022; amount for the first days, 300-500 cc. The cardiac symptoms were so marked during the night of the third day after reception at the hospital that camphor injection needed to be made. Because of the unusually severe colic, injections of morphine had to be made, also, in spite of the heart symptoms.

The threatening heart weakness began to gradually disappear at the third week, the pulse slowly became stronger and its frequency lessened. The patient needed to be kept four months in the hospital; when dismissed she was almost entirely well. The remarkable features of this case were the anomalies of the bowel movements, the great weakness of the heart (which, for a time, caused anxiety for the patient's life), the appearance of nephritis, conjoined with the peculiarly colored urine, the severe visceral colic and the nervous symptoms. Dr. Vogel regrets that the patient's condition prevented the application of certain forms of examination, whose results he would like to be able to report.

NEUROLOGY

Edited by Henry Hun, M. D.

Tumor of the Pituitary Body.— Walton and Cheney (*Boston Medical and Surgical Journal, December* 7, 1899) report the results of a study of a case of tumor of the hypophysis, and summarize the present state of knowledge as to the relations of this gland. Their conclusions are:

1. Congenital peculiarities in growth resembling those of acromegaly, but occurring in otherwise healthy individuals, may point to a structural defect of the pituitary gland, a defect sometimes furnishing a starting point for new growth later in life.
2. The occurrence of pituitary tumor without definite symptoms of acromegaly does not necessarily disprove a connection between this organ and this disease, for the persistence of even a small amount of healthy gland tissue is sufficient fairly to carry on the function of the pituitary body.
3. The combination of general symptoms of new growth with optic atrophy and loss of temporal field of vision makes the diagnosis of pituitary tumor almost certain.
4. Hemiachromatopsia is not necessarily of central origin.

The Pathological Anatomy of Acromegaly. — L. J. Mitchell and E. R. Le Count have contributed to the *New York Medical Journal* (*April* 15, 22 and 29, 1899) a "Report of a Necropsy in a Case of Acromegaly, with a Critical Review of the Recorded Pathologic Anatomy." In concluding a résumé of their studies, the following propositions, which directly concern the elucidation of its pathogenesis, seem to have acquired prominence:

1. The cases of acromegaly associated with true tumor of the hypophysis are certainly not as numerous as has been heretofore supposed.
2. There is not as much constancy in the pathologic condition of the hypophysis as there is in an enlargement of the heart, the thyreoid gland or the sella turcica.
3. Acromegaly does not depend, at least solely, upon abolition of any function of the hypophysis.
4. A relationship between the thyreoid gland and the hypophysis has already been amply proved.
5. It is not at all improbable that proliferation of the histological elements of the hypophysis may be instituted in some cases by a primary enlargement of the sella turcica; in other cases, an œdema or hemorrhage *ex vacuo.*
6. We have no reason for supposing that enlargement of the sella turcica may not be as constant an occurrence in acromegaly as the changes in other bones, or that it might not take place from a similar cause or causes.

Changes in the Peripheral Nerves in Chronic Diseases of the Blood Vessels of the Extremities.— Lapinski (*Deutsche. Zeits. f. Nervenheilk., XIII.*, 5 *u.* 6) gives the result of investigations of cases of amputation in which the nerves of the removed members have been examined. In one class of cases no changes were found in the nerves; in another marked changes were found. The results are summarized as follows:

1. Degeneration of the vessels in the form of chronic endarteritis or arterio-sclerosis may produce disease of the nerve trunks supplied by the affected vessels.
2. Such disease may make itself known by continuous pains, that are generally increased by the warmth of the bed, at night, and upon movement.
3. The motor strength of the diseased nerves is either not changed or is slightly lessened.
4. Their sensory functions may be only diminished in regions of the skin afflicted by sloughing; in other areas, even those directly involved in the slough, sensibility may not only be not lessened, but may be even lightly increased.
5. The skin and tendon reflexes may be either normal or slightly increased.
6. The reaction of the affected nerves to the faradic and galvanic currents may remain normal (in moderately extended cases), or may be somewhat diminished (in old cases), and then there in greater response to the galvanic than to the faradic current.
7. With the causes which promote the changes in the nerves must be enumerated not only the insufficient blood supply, but in all probability the long-standing œdema.
8. The histological changes of the nerves must be grouped among the dystrophic-inflammatory scleroses. The individual parts of the connective tissue are unequally attacked. The perineurium, which has no individual blood-vessels, shows the fewest changes, the endoneurium and epineurium, which have an individual blood-supply, are more notably involved. Inasmuch as the thickened connective tissue of the nerve trunk is compressed and twisted, it becomes an effort for the nerve fibres to preserve their medullary sheath. The axis-cylinders, as indicated by the clinical manifestations, are able to preserve their integrity the longest.

Changes in the Nerves During Acute Disturbances in the Circulation. — LAPINSKI (*Deutsch. Zeitsschr. f. Nervenheilk., XV.*, 5 *u.* 6) reports the result of a study of personal cases and the literature, from which he derives the following conclusions:

Acute ischæmia of an extremity existing for several days may induce disease of the peripheral nerves. Their motor functions are weakened and soon entirely lost. Their sensory functions, the sense of touch, pain, localization, heat and cold, are gradually diminished and finally entirely abolished. The skin and tendon reflexes are quickly weakened and very soon destroyed. The irritability of the nerves for both faradic and galvanic currents is gradually reduced and finally disappears. The anatomical changes in the nerves consist of a very slight swelling of the connective tissue elements, degeneration of the nuclei, frequently complete disappearance of the myelin sheath, and a slightly increased number of its nuclei. The axis-cylinders are generally very cloudy, often destroyed, and completely disappear. If collateral circulation be rapidly established, a distinct improvement, or even complete restoration of all the nerve functions follows. Participation of the muscles is much less marked than is the affection of the nerves.

Nothnagel's Convulsive Center in the Pons.— LUCE (*Deutsch. Zeitsschr. f. Nervenheilk., XV.*, 5 *u.* 6) reports cases of hemorrhage into the pons Varolii which sustained Nothnagel's claim of a convulsive center in this region, and from review of the literature, both of the experimental and pathological evidence, deduces the following conclusions:

1. Hemorrhages into the pons may produce general epileptic convulsions.
2. Convulsions produced by a hemorrhage into the pons are due to irritation of its motor structures; irritation of the tegmental region of the pons does not cause general epileptic convulsions.
3. The ganglion cells of the pons have epileptogenous properties; they are the particular agents through which irritation of the motor area produces convulsions.
4. The discharge of energy of the ganglion cells of the pons is directed in the direction of the cerebellum by way of the crura cerebelli ad pontem, and from the cerebellum the impulse is further carried by way of the corpora restiformia into the spinal cord.
5. The ganglion cells of the pons are not to be regarded as pure convulsive centers. The nuclei of the pons represent high grade nerve centers for the transmission of complicated motor mechanisms from the cerebrum to the cerebellum, without the object of inducing convulsions; their anatomical arrangement in the motor system exclusively involves the production of general convulsions when a hemorrhage into the pons occurs.
6. In man the existence of such a sub-cortical origin of epilepsy is to be considered in addition to the cortical form.
7. It is also in all probability to be assumed that in genuine epilepsy the gray matter of the pons participates secondarily in the attack.
8. It is also possible that local pathological antecedents in the pons induce the epileptic changes in the gray matter of the pons, and thereby produce the foundation for a persistent or transitional manifestation of epilepsy of sub-cortical origin, without any participation of the cerebrum.
9. Clinically pons convulsions have these characteristics: that the seizures taken as a whole are less accentuated in intensity than the genuine epileptic seizures, and that the muscles of the trunk are much more strongly involved than the muscles of the extremities.

"The Mental Symptoms of Fatigue" received special consideration by Ch. FÉRÉ in *La Medecine* of November 12, 1898. In this article the author, firstly, commences by insisting on the great influence of fatigue as a predisposing factor in the production of many varied deviations from the normal equilibrium. He has found that the mental symptoms of fatigue present striking similarities to those observed in neurasthenia. Their essential characteristic is the transitory nature of the phenomena observed.

The physiognomy and attitude reflect the general depression and sadness, and expressions which exhibit a feeling of malaise soon make their appearance. The lowering of the emotional tone results in a modification of character — a pessimistic tendency and depreciation of the environment which may brusquely appear. The blunting of the sentiments belongs to fatigue in general irrespective of its causes. Its occurrence in the course of painful digestive derangements has frequently been observed. The physical conditions of the attention are profoundly altered; the subconscious as well as the the conscious are both diminished. Defects of perception on the part of all the senses become more or less grossly complicated by errors of comparison; the faculties of perception markedly refract the aberrant subjective impressions. The will, which is the resultant of psychologic operations, is itself weakened. A default of voluntary activity likewise becomes manifest. Fatigue favors the tendencies to imitation; in other words, the individuality of the patient vanishes to conform to its environment. Abandon to all manner of excesses is not an uncommon result of fatigue. Morose moral sensations manifest themselves at times, in some few cases going so far as suicide.

Objectively viewed, certain conditions will frequently elucidate the problematic, symptomatology. Involuntary movements "a forme de tic," scratching, etc., are sometimes noted.

In general, fatigue can give rise to perversions of conduct by perturbations of perceptions, volitions and the emotions, and special fatigue of the senses can in turn give rise to disturbances of a more or less specific nature. The absence of antecedents with the frequently slight objective manifestations of a physical nature will often make the recognition of the symptomatic picture difficult. The reality of the existence of these phenomena as a result of fatigue the author conclusively demonstrates by the reports of typically illustrative cases.

Post-Anæsthetic Paralyses. — By Dr. MALLY. (*Revue de Chirurgie, July,* 1899.) These are generally supposed to be the result of the anæsthetic. The writer discusses four classes of so-called post-anæsthetic paralyses: 1. Paralyses due to cerebral hemorrhage or central paralyses. 2. Hysterical paralyses. 3. Peripheral paralyses. 4. Reflex paralyses. Cases are reported from the literature and from the writer's experience illustrating each of these four classes. He concludes that among the paralytic accidents following anæsthesia, two groups do not appear to have any connection with the anæsthesia. These are the hysterical paralyses and the reflex paralyses.

The central paralyses due to cerebral hemorrhage are rare accidents in which the anæsthetic seems to have caused a vascular rupture in a purely mechanical fashion. The peripheral paralyses are rather frequent complications. They are always paralyses due to compression. The anæsthetic plays a very indirect role in this etiology, merely favoring the involuntary and accidental compression of the nerve trunk or the roots of the brachial plexus.

It is impossible to demonstrate any toxic action of the anæsthetic upon the nervous system. That action remains hypothetical. The treatment recommended is (*a*) preventive — to avoid during anæsthesia forced elevation of the arms, and to see that the arms and legs are not compressed by the weight of the body; (*b*) curative; the hemiplegic accidents and the hysterical forms need special treatment. The peripheral paralyses should be treated with faradization, if possible, except when there is degenerative atrophy. The reflex paralyses should be treated by reducing the irritability.

OPHTHALMOLOGY

Edited by C. M. Culver, M. D.

Conjunctivitis Folliculosa and Trachoma. — In the issue for July, 1889, of the *American Archives of Ophthalmology* is an article by Dr. O. WALTER, of Odessa, on this subject. In recent times the interest in trachoma has increased and many attempts have been made to understand this still ill-defined subject. One writer speaks of follicles, another of granulations, and a third considers the tissue infiltration the essential part; and Axenfelt is right, according to Walter, when he says: "There can be no chapter in ophthalmology where the number of personal opinions is so large as in that of trachoma. In the absence of certain proof of the parasitic origin of the disease, every one attempts to establish an etiological basis for his opinion, which, however, need be binding on no one else." Unfortunately, such an objective attitude is not universal, and the contention about follicular conjunctivitis has led to a division into two camps, dualists and unitarians, in neither of which is the objectivity always sufficiently observed.

Professor Greef, in his recent *Studien ueber epidemische Augenkrankheiten*, says: "First of all, the impossible unitarian standpoint must be given up." Again he writes: "If I look through the current literature, the specialists who adhere to the so-called unitarian standpoint, that is to say, a transformation of follicles into trachoma granules, are approaching the vanishing point. Whoever thinks in the modern scientific manner can no longer maintain this principle."

Raehlmann is one of the leaders of the unitarians and Walter, as his pupil, takes that side in this article, declaring that he has never found it necessary to have a disease *sui generis* in order to dispose of the cases which shall be mild trachoma or severe follicularis. He quotes many of the dualists, showing that they are not in harmony with each other in their tenets, and from this assumes that there is a lack of precision in their definitions, and little agreement on certain points which are essential to the clinical separation of the two diseases. He says that most of them acknowledge that a differential diagnosis between conjunctivitis folliculosa and trachoma cannot always be made at once. For example, Greef states that in West Prussia, among 3,025 inhabitants, there were 299 with trachoma and 390 cases designated as suspicious. So, concludes the author, Greef could not make a diagnosis in the majority of cases, and Kuhnt's statistics show the same difficulty. With reference to Greef's assertion, that the unitarians are approaching the vanishing point, Walter quotes a formidable number of Russian specialists who, with their large opportunity for the study of trachoma, are of the same opinion as Raehlmann. According to Raehlmann, Pick and Feodorow, the follicles may disappear entirely, leaving no trace, or they may be sclerosed, or, in severe cases, a superficial ulceration leads to an escape of the contents. The writer, then, and those of his faith, do not believe that follicular conjunctivitis becomes trachoma, but that it already is trachoma.

From this standpoint he believes that regions said to be free from trachoma are becoming rare, and that places should be described as having malignant or benign forms of the disease, as one speaks of malarial districts.

Headache and Affections of the Eye.—Dr. RISLEY, of Philadelphia, read a paper before the section on Neurology of the American Medical Association, at its 1899 session, on "The Relation of Headache to Affections of the Eye" (*The Philadelphia Medical Journal, 23 September*, 1899). The subject is treated in a very dignified way and with no suggestion of hyperenthusiasm; a vast deal of clinical experience is ably interpreted and from it the following conclusions are deduced:

1. That abnormalities of the ocular apparatus are in a large group of patients the sole and sufficient cause of headache.
2. That these abnormalities of vision may be the unsuspected cause, and, therefore, that the absence of symptoms obviously referable to the eyes does not exclude them as an etiologic factor in headache, insomnia, vertigo, petit chorea in children, and certain stomach derangements.
3. That the recent or sudden development of symptoms, e. g., after attack of severe illness, as typhoid fever, the exanthemata, etc.; or in association with more or less acute exacerbation of some general dyscrasia, is not sufficient evidence against ocular participation in causing the symptoms.
4. That the participation of the eyes as an etiologic factor in headache can be positively excluded only in the absence of ocular disease, or after the most painstaking correction of any existing error of refraction or abnormality of binocular balance.
5. That, for the relief of reflex symptoms, accurate corrections are essential, and that these can be secured only by the more or less prolonged use of a strong cycloplegic.
6. That immediate relief by these corrections, in a large group of patients, is not to be expected, since the pain is frequently due to associated pathologic conditions of the fundus oculi, and these require time for cure.

Resection of the Sympathetic in the Treatment of Glaucoma. — In No. 18 of the *Wiener klinische Wochenschrift* for 1899 JONNESCO writes on this subject.

Since his first attempts at the cure of glaucoma by resection of the cervical sympathetic, in September, Jonnesco has operated eight times, the results accruing in which cases he briefly relates at the outset of this paper on the subject. The cases are thus summarized by the author: one of acute glaucoma, one of chronic, irritable glaucoma, three of chronic glaucoma absolutum with irritation, and three of glaucoma simplex. The results following upon operation are thus grouped by him also: (a) in every instance immediate and lasting reduction of the tension of the eye; (b) marked contraction of the pupil, which was also permanent; (c) disappearance of the accompanying headache; (d) cessation of exacerbations; (e) noteworthy and lasting improvement in vision in all tho examples in which retention of light perception or vision indicated that the process had not gone on to atrophy of the optic nerve. This improvement in sight was very remarkable by reason of its immediate occurrence and its constant advance, particularly in one or two of the cases, but it did not occur at all in two of the cases of glaucoma absolutum, nor in that of acute glaucoma.

He quotes Panas and Duvigneaud as saying that only when the nervous mechanism of intra-ocular secretion, that is, the action of the nervous system upon intra-ocular tension, has been elucidated, can the pathology of glaucoma be fully explained, the action of iridectomy understood, and the treatment of the disease — possibly by some different methods from those at present in vogue — be placed upon a thoroughly scientific basis.

Donders regarded the fifth nerve as the probable offender, bringing about an increased secretion; according to him, section of the fifth nerve caused reduction of tension, while section of the sympathetic had no influence; but these opinions have been shown to be incorrect by Wegner, who proved that the fifth nerve has no influence on tension, while section of the cervical sympathetic brings about its reduction. The different opinions of several authors are quoted; Jonnesco says that however stimulation of the sympathetic may bring about the result, clinical evidence shows that such result is dilatation of the pupil, contraction of the small intra-ocular vessels, energetic contraction of the peri-bulbar, unstriped muscular apparatus and probably increased activity of the secreting mechanism for the aqueous humor, thus bringing about increased inflow into the eye at the same time that the means of outflow are diminished — in other words, glaucoma. Where is the original seat of the damage to nerve balance which leads to glaucoma? This author thinks it central, not peripheral; that there is irritation of encephalic or medullary centers from which fibers run to the sympathetic; though removal of the superior cervical ganglion does not eliminate the source of the disease, it does effectually and permanently close the route by which the evil comes; it will be chiefly in those forms of glaucoma in which the nervous element is strongest that most good will be done by this heroic method of treatment. Simple glaucoma will be most tractable by it, while those in which acute exacerbations are an important feature will be less amenable. Thus Jonnesco's operation will be most serviceable where iridectomy is least so, and *vice versâ.*

The author considers mere division of the sympathetic trunk to be of very small value indeed as a substitute for resection; he finds fifteen minutes sufficient time for the bilateral operation; after it is completed there are observed congestion of the face, eyes and nose, lachrymation, and headache, all which symptoms disappear in about a day's time, but there remain, permanently, contraction of the pupil, sinking of the globe into the orbit, a slight degree of ptosis, and narrowing of the palpebral aperture. As regards the visual condition, there is at once an improvement in the patient's sight, which goes on increasing day by day, and at the same time the circumorbital pains and the headache vanish, after the immediate effect on the cerebral circulation, produced by the loss of the ganglion, has passed away; occasionally there is slight dysphagia. One of Jonnesco's cases was a patient who suffered both from glaucoma and from exophthalmic goitre; both conditions were cured by the one operation.

LARYNGOLOGY AND RHINOLOGY

Edited by C. F. Theisen, M. D.

Blue Nasal Secretion.—At the Congress for 1898 of the French Society of Otology and Laryngology, M. MOLINIE of Marseilles reported the history of a young woman, 25 years old, in whom, after an attack of grippe there occurred a discharge of blue secretion from the nose. Examination of the nasal fossæ demonstrated that the source of the secretion was the right middle meatus. Cultures showed the bacillus pyocyaneus.

Two Cases of Foreign Bodies in the Air Passages.— A. E. WIGG, in *Internat. Centralbl., etc., Feb., 1899.*

Case 1. That of a boy 4 years old, who, while eating, had a sudden attack of suffocation. The child was brought to the hospital in an unconscious condition, where rapid tracheotomy was done. The larynx and trachea were firmly held between the index finger and thumb of the left hand, and trachea cut down upon with a few rapid strokes of the knife; without fixing the trachea, it was opened and held apart with a forceps. A piece of bone was taken out, which had lodged between the vocal cords. The author states that if the operation had not been so rapidly done the boy's life could not have been saved.

Case 2. A woman, 30 years old, had had some teeth extracted under ether. One had slipped from the forceps and disappeared. Since that time patient had coughed after any attempt to move or talk. A tracheotomy was done, but the foreign body was not coughed out. Patient died, and at the autopsy a left sided empyema was found, and a bicuspid was discovered wedged in a small bronchus of the left lung.

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ALBANY MEDICAL ANNALS

Original Communications

PRESIDENT'S ADDRESS:*

REMARKS ON RETROPHARYNGEAL ABSCESS AND PULSATING EMPYEMA, WITH REPORT OF CASES

BY J. L. ARCHAMBAULT, M. D.,
Cohoes, N. Y.

Mr. Vice-President, Gentlemen:

A few moments more and this session will be a thing of the past. Before bringing it to a close I desire to thank you again for the honor conferred upon me when, a year ago, the Society elected me to its highest office. In this position, which I have held through the kindness of men much better than myself, I am very happy not to have lost sight of the motive which prompted them to call me from the rank and file to this exalted station; they had in mind to be partial to the "Cohoes Profession." I would now give a very imperfect expression to my sense of gratitude should I fail to refer to those whose representative I happened to be, the whole merit of the honor I received on that occasion.

As I look back, my gratification would be unsurpassed could I only retire with the conviction that your expectations were not disappointed and that I have served my term with both assiduity and competency. As anticipated, very few have been the meetings at which I have presided, and about negative my action and participation in arranging the year's work. If the year has been fairly prosperous; if the attendance at our meetings has been as good as in preceding sessions; if the opportunity to compare experiences and to keep members in touch with one another's work has not been neglected; if the program of the year has been satisfactory, well filled and well carried out—ten meetings have been held (this is the eleventh) and you have heard twenty-three papers—; if in choosing "Tuberculosis" as the principal work of the Society during this session, the choice has proven most desirable, most practical, and one which, however old, is constantly so actual that it has, this year, received, on this continent as well as abroad, more attention and has been the occasion of more scientific contributions than in years before; if we have, for our part, been able to enlist, upon its study and discussion, as lecturers, the men, from among us, the most apt to treat this broad question in its many phases; it is just now appropriate to state to whose energy, efficiency and radiant influence, the credit is due, and my thanks would be nothing were they not the expression of your own high and warm appreciation of the splendid work of our Secretary.

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*Delivered before the Albany County Medical Society, May 9, 1899.

I feel that thanks are also to be extended to the Vice-President and the other gentlemen, who kindly occupied the chair in my repeated absence; and to the Board of Censors, who, intrusted with the welfare of our membership, did not permit our Society to suffer from any condition of affairs which would be alike in nature to pernicious anæmia or acute yellow atrophy. Stern observers of our by-laws, still zealous and ambitious to make a good record, they have striven in earnest, and hence twelve new members have been elected. You will not fail to note that this increase in membership compares favorably with former years and deserves praise. Yet I am not certain that the advent into our ranks of these many `Ασνληπιαδαι can be considered compensatory to the disappearance from our midst of such a NESTOR as was the late Dr. William H. Bailey, to speak of but one of the two losses by death that this Society has sustained during the past year.

As to our financial standing, I have not looked into it, but your Auditing Committee has, and they have reported that apparently our banking account has been handled with thoroughness and ability. This you may doubt, when you see, firm at his post, confident, unconcerned, placid as the owner of an undisturbed conscience alone can be, the incumbent of the office. Men of his capacity, who display as much familiarity with the capital as with the interest of a concern, are generally found, at the psychological moment, on the other side of the Canadian border!

What, to my mind, is an eminently proper departure for this Society, comes now, to-night, before you for the second time. I refer to an amendment to our by-laws that would make a "thing of the future" to hold meetings in the adjacent centers—namely Cohoes and Watervliet—as well as in Albany, so that the Society might be truly, in fact as in name, a Society of the County. No one can fail to appreciate the advantage that will accrue from this change, should it take place, through the greater interest likely to be manifested in the Society work by the members from outside this city.

Gentlemen:—

> "Les exemples persuadent mieux que les simples raisonnements."
>
> *Mauriceau.*

The main object of the medical art is especially to achieve the cure of diseases. Without being indifferent to the science that is done and which opens every day before us new and broader horizons, it is well to keep in mind that no pathological conception has any worth and is deserving of much attention and credit unless it resolves itself into acts and, so to speak, finds facts in which to materialize. Hence, examples make more impression and have more practical bearing than precepts. Long ago, Mauriceau had found the formula of this assertion when he would repeat before his pupils by way of an aphorism: "*Les exemples, persuadent mieux que les simples raisonnements.*" (Better than reasonings do examples persuade.)

I ignore not that it is the custom, in a president's address, to take up some department of the healing art, or to treat some abstract question of historic interest, or to settle more or less dogmatically some doctrinal point, etc., etc. But such as myself should not be rash enough to attempt an address of a general nature, or to discourse on anything that would offer the least shadow of being in the nature of a thesis; they should heed the word of warning of the "Master," and, satisfied that examples might go a longer way than abstruse and speculative theorizing, confine themselves to some topic of practical moment. "Better than reasonings do examples persuade."

So, having neither the time to study nor the ability to discuss the broad questions of medical science, the only safe thing has been to turn to my note books and to select from among the cases that have accumulated therein, such as would present the results of my personal experience. Yet, it takes so very few years for such accumulated experience to grow very large, while it remains of that common sort which is the experience of everybody, that a decided risk was incurred to touch upon subjects trite and thread-bare, unless they could offer, as a claim to your attention, at least the merit of their infrequency. Thus, have I chosen to speak to you of the "*Retropharyngeal Abscess*" and of the "*Pulsating Empyema.*"

In a practice of nearly twenty-nine years, two cases only of the first disease and one of the second were met with. Aside from their rarity, and while they otherwise vastly differed, these cases offered, as suppurative diseases, some other points in common, which made it interesting to me to study them together. This study I submit to you now, with much fear, however, that what has interested me might prove tedious recitation to men for whom medical literature contains nothing new.

RETROPHARYNGEAL ABSCESS

On account of its comparative scarcity and the obscurity of its symptoms, there is perhaps no disease of early childhood which is more likely to be overlooked than retropharyngeal abscess; and there is none in which accuracy and promptitude in diagnosis are forthwith a question of life and death.

Of the two cases that came under my notice, the first was that of a baby in the eighth month; he had a suppurative otitis; this otitis coexisted with skin eruptions, especially papular, which bore the stigma of hereditary syphilis; the otitis appeared as the cause of the pharyngeal affection. Unfortunately, the diagnosis was arrived at late, and the child succumbed while being operated; the pus invaded the glottis and caused suffocation; it is true, the lungs were in a state which did not warrant a different termination.

The second case is the one now to be related.

On May 1, 1892, Marie-Louise B., a child 17 months old, had an attack of measles. On the 29th of the same month, I was called again. The child was feverish, uneasy and appeared to be distressed in swallowing. Upon examination, it was found that the pain was especially referred to the neck and increased with every movement. The throat was red, but did not present that redness and the prominence of the papillæ characteristic of follicular tonsillitis or catarrhal pharyngitis; yet, the secretions were copious and running down from the posterior nares as in well marked rhinitis. The next day, there was greater stiffness of the neck, but the throat and the posterior pharynx did not show much change; it was yet covered with an abundant mucus. Otherwise, there seemed to be no correlation between the apparent superficiality of the local lesions and the severity of the general symptoms. The third and the fourth days did little towards clearing up the diagnosis; one's mind, however, could not fail, in directing its inquiry, to take more and more notice of this peculiar immobility of the head and the impossibility to give it any motion without causing the child to suffer and cry. The fifth day, the voice had a decidedly nasal sound, the difficulty in swallowing had greatly increased, and, during the night, the liquids had begun to return through the nostrils. The child, although appearing weaker, was however less in pain. On inspecting the pharynx and sponging out the frothy mucus, its posterior wall was noticed to be irregular and to bulge somewhat. Thus, the diagnosis was becoming clearer. The next step was to substitute the finger for the spoon and the touch for the sight. As soon as the index was carried into the pharynx, it came in contact, behind the velum palati, with a swelling of the posterior wall offering a firm resistance and the projection of which was on the left of the median line. The sixth day, this swelling had become slightly maniest outwardly, well up on the side of the neck, below the ear.

The seventh day, the general malaise was greater, the difficulty in breathing much aggravated, and the finger, brought in contact with the tumor, found it decidedly softer. The eighth day, there was no longer any doubt that the case was in a state which required intervention, and, my friend, Dr. Featherstonhaugh, kindly assisting and administering chloroform, I opened the abscess. Though this operation is but a simple incision, yet it requires care and some technique, as the pus escaping from the pocket is liable to rush into the glottis under the suction of the respiratory movements. To avoid such a complication, Plicque (in *Concours Médical*) advises to keep the head of the child erect, being very careful not to throw it backward, and as soon as the stroke of the knife has been given, to quickly bend it forward. This method does not seem to be without its defects, and I believe that it was partly responsible for failure in my first case; it did not prevent the pus from invading the larynx, and the scene was abruptly closed by an asphyxia which a generalized bronchitis had rendered already too threatening. This time, I thought more advisable to use chloroform and to operate with the child lying on its side, proceeding as follows: As soon as the child had come under the first shock of the anæsthetic, it was rapidly turned on its left side (the side of the abscess), its face in good light; a Denhard's gag was introduced to moderately open the mouth, the tongue was strongly depressed by the forefinger, which also served as a guide for the instrument; and an incision was carried through the tumor to the extent of about two centimetres. Caution is given not to use a blade unless covered and protected with gauze or plaster up to a centimetre and a half from the point; as the common straight small tenotome answered such a requirement, it was used. The incision was made (according to the advice of St. Germain) as low as possible to avoid hemorrhage, and the stroke of the knife was directed downward and obliquely inward towards the median line. Then, the finger, which, before the incision, had been thrust far back into the pharynx (to explore the point on which this incision was to bear, and to make sure that no strong arterial impulse was felt), was now again thrust into the wound for the purpose of bruising its edges, especially at the inferior angle, and in such a way as to avoid leaving any cul-de-sac. Yet, before this could be done, it had been necessary to quickly bring the face of the child forward and down, to prevent the pus that gushed out from flooding the larynx. This was so easily accomplished that no suspension of the breathing could be noticed, although the flow had been very rapid and apparently had filled the throat.

This curetting of the wound had the best effect, for on the next day, when it was thought wise to repeat it to make sure not to be obliged to renew the operation after a few days—as it occurred to Clopatt, who, in one of his cases, found it necessary to repeat the incision three times (*Journal de Cl. et Thér. Inf.*)—it was a great satisfaction to observe that the edges had remained gaping and that the cavity was draining itself well.

When the pus has escaped, Koenig advises to introduce into the cavity a small amount of iodoform, but it is not easy to understand how this could be useful, when especially it appears as impracticable. Indeed, it would be more than a difficult task to carry and retain iodoform or anything else into a cavity so located and yet steadily discharging. In our case, the cavity of the abscess was absolutely left to itself, care having been taken, as already said, not to allow of any cul-de-sac forming at the lower angle—which, in our estimation, is the essential point.

If we now take a rapid review of the etiology, symptoms and diagnosis of this affection, we find, in following the excellent monograph of A. F. Plicque, that most writers are agreed on this point: That these abscesses are specially met with in children under one year of age. Between the age of two and three, a few cases are yet observed. After that, they become exceedingly rare. The following average is given in the statistics of Bokai compiled at the children's hospital of Pesth: out of 142 cases, 86 occurred before one year, 48 beween one and three, and only 8 between three and seven. Thus, 95 times out of 100 the diagnosis will have to be made in children unable, as in our two cases, to give the least information as to the seat of their disease. On that account, the diagnosis may be easily overlooked, the more so that the affection, as already stated, is most uncommon. The study of several statistics does not disclose more than one case out of 500 to 1000 children treated for various ailments.

Among the immediate *causes*, irritations of a varied nature, and identical in this as in other ganglionic abscesses, are to be pointed out: lesions of the skin, eczema and impetigo of the scalp; lesions of the mucosa of the mouth, pharynx and nose, stomatitis, the various forms of tonsillitis, pharyngitis, rhinitis, influenza; these initial lesions are oftentimes very slight, and generally of such little importance, when they occur, as to be of very little help to the diagnosis. In the same way, in leading to similar alterations of the skin, mucous membranes and underlying lymphatic system, are hereditary syphilis, as in the first case, scarlet fever, measles, as in the second case, apt to display their influence.

The *symptoms* on the outset—fever, malaise, restlessness—are not characteristic. The sleep is always disturbed, and the general nutrition impaired.

The local phenomena are found to belong to two groups: those relating to the deglutition, and those relating to the breathing apparatus.

The first important symptom, because it directs your attention to the throat, is the *difficulty in swallowing*. Sometimes a *peculiar immobility of the head* will be observed (Clopatt). The *change in the voice*, although of less early advent, is of more assistance in the diagnosis; the voice acquires a nasal sound, which Labric has compared to the *quacking* of the duck. The *trouble in breathing* may become alarming and lead to a serious dyspnœa, whether this dyspnœa be solely the consequence of the pharyngeal stenosis, or whether it be referable, as it was in our first case, to the complication of the bronchi and lungs, induced either by the stenosis, or the disease itself, or both. "Fortunately," says Plicque, "these phenomena make their appearance but at an advanced stage of the disease; should the diagnosis be arrived at only from them, it would generally be too late for surgical interference."

"Whenever," he further states, "the abscess is overlooked, it is not owing so much to a tardy examination of the throat as to the faulty way in which this examination is performed. The sight alone will give but an imperfect knowledge; the back of the throat is filled with mucus, and the redness and tumefaction are likely to be masked. It is true, the presence of so much mucus is in itself a valuable diagnostic point, but the only truly pathognomonic sign is furnished by the touch. One must go and feel with the finger the *tumefaction more often lateral than median*, projecting from the posterior wall of the pharynx." Sometimes the finger may ascertain, as it is withdrawn after pressing, a decided fluctuation; but most frequently it experiences only a certain resistance. "At times," remarks Koenig, "the wall of the abscess may be so resistant and so tense that, indeed, the touch conveys the impression of altogether a different thing than a liquid collection; yet, the incision gives pus." Therefore, one is justified to proceed with the knife when he has once verified the pharyngeal swelling, without any preoccupation being entertained of the presence or not of a distinct fluctuation.

Moreover, you must avoid to be too long in your search, for the examination is always sure to increase, in the patient, the already great difficulty of breathing.

And besides, at this juncture, there is hardly any more cause for confusion in arriving at a differential diagnosis. Indeed put together the five following points: An infant, an acute affection, difficulty of deglutition, alteration of the voice, pharyngeal swelling—one thing only can be the matter; you are dealing with a retropharyngeal abscess.

The *congestive abscesses* arising from Pott's disease present a chronic and much different evolution.

The same may be said of the *dermoid cysts.*

An *acute non suppurative retropharyngeal adenitis* is seldom anything but the first stage of the abscess; practically, its existence is not to be admitted unless it is settled, by a negative exploring aspiration, that our sense of touch has not been a source of error.

The most annoying error in diagnosis would be to mistake the retropharyngeal abscess for a *deep cervical abscess.* Scarcely perceptible under external palpation, there are, however, cases in which the deeply seated tumefaction of the retropharyngeal abscess becomes sufficiently manifest in the cervical region to attract attention. Such was the case with our patient, and this fact not escaping the well trained eye of my confrère, we were guarded against neglecting this possible cause of error. To avoid it, the very point to observe was to carefully inspect the rear part of the throat, to well expose the bulging of the retropharyngeal abscess, and to verify how much closer to the median line it was reaching than a deep cervical abscess could ever do; then, to couple with this fact this other one: the total absence of any hyperplastic infiltration of the subcutaneous tissues. Of course, had we tried to get at this abscess by an incision from the outside, it would have proved to be, indeed, a laborious, difficult, dangerous undertaking; the incision would have been carried to such a depth that possibly the task would have been given up before reaching pus.

Every writer agrees in urging that the patient be watched for several days to make sure that the abscess has not returned. We were fortunate enough to meet in less than eight days with a complete recovery, owing partly, no doubt, to the care and attention with which we had dilacerated the inferior angle of the wound in order to prevent it from forming cul-de-sac.

We were also, in another way, fortunate in having cured this little child on that occasion as, a little more than a year later, in November, 1893, it had not done with suppuration, whatever be the way of accounting for such an affinity, and it came back to our care, this second time with a pyothorax of the left side.

Perhaps it would be interesting to describe this second sickness, but as this would be entering into the subject of *Suppurative Pleuritis*, while my object is to consider this disease only under the special aspect of *Pulsatile Empyema*, I will touch upon the case simply as a manner of transition and will briefly state that, on November 18, 1893, with the kind assistance of my confrère, Dr. Peltier, a few weeks after the onset of the disease, I subjected the little patient to the operation for empyema. By the first days of January, 1894, i. e., in six weeks, the discharge was dried up, the wound closed, and the patient recovered. Yet, here is to be mentioned a fact worthy of note on account of the train of anatomical lesions that the case now offered. This child, upon which, a year before, at the time of the retropharyngeal abscess, the closest examination, made before and at the time of giving chloroform, did not disclose anything abnormal with its heart, was now giving undeniable evidence of a serious valvular lesion: Soft blowing murmur with the first sound, maximum intensity at the apex. Had this mitral insufficiency proceeded from the retropharyngeal abscess? Should it rather be traced back to the initial measles and considered as a more tardy systemic outcome thereof? or, on the contrary, was it of more recent date, coexistent with the pleurisy we had been called to attend and directly referable to this, either as endo-pericarditis per contact and propagation, or as simple endo-carditis incidental to deep blood deterioration? Not a few might be inclined to insist upon a duality of causes: an eruptive disease favoring suppuration, and suppurative diseases vitiating the blood and extending their pernicious influence to tissues of similar histological nature.

This girl is now eight years of age. The other day, April 9th, having to aspirate her brother Joseph, seven years old, for an abundant left serous pleuritis, I turned naturally to her and went over her case, much to the satisfaction of my friend, Dr. Archibold, who had kindly assisted me.

While the lung and heart concerned me most, I inspected the throat with no little interest. Singular enough, the line of the pharyngeal cicatrix was quite discernible, and this was made still more apparent by the gagging resulting from the inspection. The posterior wall could then be seen to pucker-like around the scar, owing likely to a greater adherence between the cicatricial tissue and the parts beneath than exists normally.

As to the heart, the murmur had changed its pitch. This change is considerable. It is no longer a soft blowing murmur, it has become intensified, it has taken the character of the *bruit de soufflet* (bellow's sound). There is energy in this disabled mechanism, the energy of compensation.

As I am now to pass from this case to the one I have proposed to present as illustrative of the *Pulsating Empyema*, I desire to point out that both cases have had some similarity in their etiology and have arrived, through a different course, at a similar result.

Both have had an eruptive fever as their starting point, and a disability of the same organ for their consequence.

The concrete formula of both reads thus:

In the one: measles, retropharyngeal abscess, pyothorax, heart disease.

In the other: scarlet fever, pulsating empyema, and again heart disease.

Measles and scarlet fever, entrance-door of the coccus of suppuration (streptococcus or pneumococcus); valvular lesions, effect of the microbic toxins.

PULSATING EMPYEMA

This case of Pulsating Pleuritis began, as I have just said, with scarlet fever. Along with two brothers and a sister, Frederic D., aged 6 years, was taken sick with scarlet fever in April, 1893. On account of the poverty of the family and because he was the last on the sick list, he had not the advantage of a physician's care except during two or three days. Yet, from the mother's account, one may judge that the boy had not been seriously sick, that the eruption had presented a good appearance, that the throat was most complained of, and that a cough, which appeared in the last stage of the fever, had continued until the time when the little patient was brought to the office because this cough had of late steadily grown worse. This was the 24th of August, that is, four months after the initial trouble which had given admission to the infection; and this infection had apparently at once attacked the respiratory apparatus. The first inference now would be that as the affection had lasted four months, it was essentially chronic; this is moreover in accordance with the general rule that all cases of this kind are chronic. However, as will be seen later on, and judging the case from its results, the disease appears rather to have pursued an active acute course.

Before proceeding any further, a few general observations may be made on account of the rare occurrence of this disease and the lack of any fairly elaborate description in classical treatises and text books. Thus, former writers, even those that were much read, are either entirely silent, such as Watson, Grisolle, Gregory, Nyemeyer, Béhier and Cornil, Reynolds (*System of Medicine*), or give it but a passing notice, as Flint does. Tyson and Pepper, among more recent writers, devote hardly a few lines to the subject; Pepper calls it a curious variety of pleurisy, of which he had the opportunity of studying but three cases. Finally, in the *Twentieth Century Practice*, there is just one page devoted thereto. As proof of the extreme infrequency of this condition, it may be mentioned that Osler, in 1889, collected but forty-two cases in the whole medical literature on this subject. The most complete study known to me is due to Comby, who published it in 1891 in the "*Archives de Médecine.*" In this study, he had availed himself, as he states, of other researches which were published about that time, and of which his essay was but a careful synthesis. In taking up the subject, I cannot do better than follow his descriptions, although my case does not support some of his conclusions.

Notwithstanding its infrequency, Pulsating Pleurisy has a clear and precise symptomatology and in most cases its diagnosis is easy.

Pleurisy is called pulsating when the thoracic wall on the affected side is seen to move with rhythmic pulsations synchronous with the pulse and the heart beats.

Under this term, two conditions, widely different in appearance, are included: In the first, the pulsations cover a wide area of the thorax; in the second, they are confined to a fluctuating tumor, which communicates with the effusion.

This pulsating tumor is not always single, there may be two. Light reports two such cases. Its most frequent location is between the second and sixth ribs in front, outside the mammary gland, but the pulsating area may be in the lower axillary region, as in our case; it may also be distant from the thorax. Miller reports a case where it was found in the lumbar region.

These pulsating pleurisies are nearly always *left pleurisies;* most generally, they are suppurative pleurisies; hence the term *Pulsating Empyema* is perfectly justified.

The verifying of the thoracic pulsation has, moreover, an important semeiotic meaning; for, prior to any other exploration, it authorizes the inference that the effusion is purulent.

When you meet with a case of pulsating pleuritis for the first time, you quite naturally suspect an "aneurism of the aorta." Such an error has occurred many a time; a sad occurrence, as it causes you to delay indefinitely an urgent intervention.

To clear away your doubts, it will be well to look at once for the coexistence of a copious effusion, which, however, pulsates in only a limited area of its surface. Then, you must also note that, while the thoracic pulsations are rhythmic and synchronous with the pulse, while they may sometimes be strong enough to raise the hand or head when you either palpate or auscultate, the location is generally different, and there is an absence of murmurs, of thrills, of aneurismatic expansion, of pressure symptoms. Not to speak of the anamnestics, these reasons are quite sufficient to set aside the existence of aneurism.

Another source of error to be guarded against is mistaking Pulsating Empyema for a "Pulsating Abscess of the Præcordia." In fact, there may exist in the præcordial region purulent collections offering phenomena of expansion and pulsation. A brief review of a case, which occurred in practice, will illustrate this condition and elucidate the differential diagnosis.

Marie D., aged four, is a member of a numerous family, all of habitual good health. March 19, 1889, we were called in, as the child had, during the past several months, frequently complained of pain in the chest, in the region of the heart. Three or four blisters had been applied. Later on, a tumor had made its appearance on the præcordia. Small at first, this had increased rapidly. Its situation was found to be a finger-breadth below the nipple, a little more than a finger-breadth above the ridge of the short ribs, extending inward to the median line of the sternum and outward to about two finger-breadths from the axillary line. It was pyriform with large base. It had pulsations synchronous with the arterial beatings and a very manifest expansion. It reduced slightly under pressure. It was almost absolutely indolent. On auscultation, the heart sounds were muffled but normal, there was no murmur; the vesicular murmur was clear and distinct above the tumor up to the apex (true puerile respiration), and below in a zone extensive enough but very narrow; behind, the breathing was free over the entire back, no crepitation, perfect resonance. Hence, pleural sac was in a normal condition, and pleuritic effusion out of the question. Was an aneurism to be thought of? On the surface of the swelling, the skin was red, tense, thin and quite warm. It seemed suggestive of an abscess. Such was the opinion of my old and regretted friend, the late Dr. Boudrias, whose well tried and extensive experience was of much value to me in this instance as on many other occasions. "I admit an abscess," he argued, "for if it were an aneurism, it should be of the internal mammary artery, or of the intercostal. But those arteries are too small to furnish so voluminous a tumor. Moreover, it cannot be from the aorta, as then it would be located higher up. Neither can it be an aneurism of the apex; no observer has ever taught that such an aneurism had perforated the chest wall; as a conclusive sign, there is no murmur. In proof of abscess, there is the existence of previous pains." To assure the diagnosis, a capillary punction was then made at the base of the tumor, selecting a point where the skin was sound; a considerable amount of pus escaped. The pocket was now freely open so that a possible subcostal collection and diseased condition of the ribs might be looked for. After a little search, there was found a perforation located at the union of the intercostal cartilage with the sixth rib and which had afforded communication between the anterior purulent collection and another one located beneath the thoracic wall. The pus was inodorous and carried flocculent particles and pseudo-membranous shreds; there was denudation of the edge of the rib and of its posterior face, but to an extent which remained undetermined. Thus, it had become clear that it was a case of costal periostitis with "shirt-stud" abscess. One may infer that the posterior pocket of this abscess was in contact with some point of the ventricular part of the pericardium As Le Dentu remarks, "the heart impulse does not belong solely to the apex, every portion of the ventricle imparts the same sensation during the cardiac systole." The heart was pushing the liquid forward by compressing the retro-parietal pocket; by this compression, a certain amount of pus was forced into the external abscess, and hence occurred expansion and impulses. After the operation, fistulous tracts persisted for about three months, but finally cicatrization took place without our having recourse to resection. On October 23, 1890, a little more than a year later, this child contracted diphtheria, which became laryngeal. I had to intubate, but in 28 hours the child was dead. Some time ago, I gave you a parallel between tracheotomy and intubation; I had this case in mind when I spoke of "an instance when I had to intubate with no other help than the father and a neighbor" (*Medical Annals* for May, 1898, page 252).

This digression has perhaps carried us a little too far from our subject, but no detail is insignificant which can guard against error.

Thus, the utmost care has been taken to make sure of your diagnosis. Yet, to clear up a last doubt, as in the case just referred to, you practice an exploring punction. It gives pus.

Should you now proceed to empty the pleural cavity by aspiration, you will cause the formation of a pneumothorax, which takes the place of the aspirated fluid. The atelectasis of the lung is such that this organ is incapable of dilating rapidly enough to fill the vacuum left by the punction. Hence the pneumothorax is almost inevitable; in very few cases has it failed to appear.

This pneumothorax is latent; for its detection, you can depend neither on the amphoric breathing nor on the metallic tinkling; the Hippocratic sound alone can reveal its presence.

The thoracic pulsations disappear after the evacuation of the pleura; they recur after aspiration as soon as the accumulating liquid is again abundant. Even in this case, they may finally disappear.

The heart is deviated and, so to say, transposed to the right; it is held by adhesions which prevent its return to the left after the punction. The cardiac impulses are regular; there is no enlargement, no dilatation, no valvular lesions.

Sometimes, a slight pericardial effusion has been detected, even adhesions extensive enough to produce cardiac symphysis.

Pulsating pleurisies are essentially chronic; their duration is indefinite; left to their natural evolution, they are frequently fatal, the more so as those attacked oftentimes are tubercular or gradually fall a prey to tuberculosis.

Yet, pulsating pleurisies are curable, and their prognosis is not absolutely dark.

While easy of recognition, pulsating pleurisies remain, both as to their cause and mechanism, a curious and rare phenomenon, to this day unexplained. Likewise, no satisfactory explanation has been given of their rare occurrence.

After this review of the subject as obtained from the study of Comby and of his conclusions condensed in the form of so many aphorisms, proceeding with the report of the writer's case will demonstrate the accuracy of Comby's assertions, although, as said before, some of them fail to receive support.

Thus, the little patient was brought to the office, by his mother, four months after an attack of scarlet fever, not having been free from cough during all this time. Of late, this cough had increased, and although he had been about, yet his mother had noticed that he was easily out of breath and that he frequently complained of pain in his side.

Presently, he had a short continuous cough, an almost livid hue of skin, and a dyspnœa so intense as to cause astonishment at his having reached the office. The pulse was rapid, but regular. On removing his clothing, there was observed on the left side, under the arm, a round enlargement the size of the palm of the hand. This tumor was pulsating; it was located over the seventh, eighth and ninth ribs, about midway between two vertical lines descending one from the pit of the axilla and the other from the angle of the scapula; it was soft and fluctuating, and its beating was synchronous with the pulse. There was no discoloration of the skin over the tumor, no fremitus, no souffle.

On further investigation, the following points were noted:

No manifest projection of the intercostal spaces, but quite apparent unilateral chest-immobility. Dullness, general posteriorly, and extending anteriorly near to the collar bone; slight Skoda's tympany. Thoracic vibrations, not existing in front, and but scarcely preserved behind near the vertebral column. Absence of vesicular murmur. Distant souffle, harsh enough; bronchoægophony. At the apex, breathing somewhat rude, somewhat blowing; in short, supplementary respiration, aphonic pectoriloquy. Adjacent organs displaced; heart apex beating on the other side of the sternum, gastric resonance lowered, and Traube's semilunar space effaced.

Thus, there was every indication of the presence of a large effusion, and of a purulent one since it was pulsatile.

To remove any possible doubt, an exploring aspiration was made with the hypodermic needle, the needle being inserted above and to the rear of the fluctuating tumor, very close to the angle of the scapula. The syringe filled with pus.

This made it evident that nothing but an operation would give relief, and an appointment was made with my confrère, Dr. Featherstonhaugh, for the following day.

As the operation, in pulsating empyema, does not in any way differ from that of the ordinary form (Benlau's method), the only detail worth mentioning is that the incision, instead of bearing on the classical point, in front of the anterior edge of the latissimus dorsi, in the fifth or sixth space (Moutard Martin) in the sixth or seventh (according to other authorities), was made in the very center of the fluctuating pocket, thus penetrating the pleura between the eighth and ninth ribs (lowest admissible point, says F. C. Shattuck, in *Reference Handbook of the Medical Sciences*).

The progress of the case after the operation was rather simple; some little shock, but from the very first days the suppuration of the pleura had considerably lessened, the patient was recovering strength, appetite, etc., etc.

Just a month after the operation, the pleural cavity, washed only once in two or three days with an alternate solution of boric acid and potassium permanganate, had contracted so that it admitted but one fourth of the liquid first used. The side was slightly depressed and flattened; the incessant cough had disappeared; the heart had moved half the way towards its normal position; the respiration was weak, unsatisfactory, obscured by cracklings and tubular râles, yet it was not wanting. To all appearances, the tendency of the case was towards recovery. In fact, in the course of the next two months, the patient became practically well; although, properly speaking, there was left a sinus, which took a year to close finally.

To obviate the flattening of the thorax, the little patient was subjected in every possible way to a sort of training; respiratory gymnastics, by exercises of deep-forced breathing; muscular gymnastics, by motions of the arms, etc., etc.

It was, however, our impression that, in time, the thorax would inevitably become deformed, inasmuch as in none of such cases can the lung be expected to regain its integrity; Comby having particularly insisted on this point, that "the pulsations synchronous with the heart beats are met with only in old purulent pleuritis, where the lung has become definitely contracted and strongly adherent to the pericardium" (*France Médicale*).

But the case did not realize this expectation. Frequently seen later on, and again quite recently (Febr., 1899), its condition and appearance may be summed up as follows:

The boy, now nearly 12 years old, has grown up rapidly; he is tall for his age, but slim and slender; though not strong, has never since coughed nor been sick. On being divested, his chest shows symmetry and dilates equally well on both sides, both as to inspection and palpation. A careful auscultation reveals no abnormal sign and no difference in the respiratory murmur of the left side as compared with the right, either as to force, quality or extent; everywhere is found good vesicular breathing. This condition is further corroborated by percussion and mensuration.

Thus, that lung has not been sclerosed.

Thus, again, sclerosis is not an essential condition of pulsating pleuritis, or of all large pleural purulent collections.

Again, it does not appear essential that the disease be chronic for this phenomenon of pulsation to occur.

Watkins has quoted a case where every indication was in favor of an acute course.

In our case, the indications seem to demonstrate that it was not chronic. The child begins to cough towards the end of his scarlet fever and continues coughing until he comes under treatment, that is, four months later. But the fact that quite rapidly after the operation, the lung regains its elasticity and that its functions are restored *ad integrum* appears as a fair indication that the disease remained throughout of an active form. It is likely that the breathing apparatus became involved in the lung tissue first. The pleura became diseased secondarily, because the lung, beneath, was diseased. And as the pulmonary lesion was septic—the infection, probably streptococci, having been brought in the footsteps of the scarlatinous infection—this caused the pleuritis to become rapidly purulent. Regardless of the four months elapsed, it may therefore be quite possible that the empyema was of rather recent date. In support of this hypothesis, you might remember that, before operating, we had observed a souffle quite sharp, though distant, and that, soon after the operation, râles could be heard; which would show that the lung was not carnified and unable to dilate. As a last proof, it might be mentioned that the heart, as we remarked, at first pushed over to the right, then receded under the sternum during the month following, did not, however, symphyse itself there; in course of time, it returned to its normal place. Moreover, later on, it exaggerated its position to the left, and this on account of grave structural changes.

Indeed, this deviation to the left is striking. The apex to-day is seen to beat three and a half centimetres below the nipple; in other words, the apex is lowered a whole intercostal space, and beats outside the nipple vertical line; the impulse is strong and, if felt with the hand, it communicates to it a decided thrill, which reminds of the "purring tremor" of Laennec. At percussion, the area of dullness is considerably increased. Thus, this heart is hypertrophied. The hypertrophy is compensatory to a double valvular lesion. During systole, there is at the apex a marked murmur: mitral insufficiency; and during diastole, at the base, a louder murmur, but soft and prolonged: aortic insufficiency. It is quite natural that the unfortunate young patient, while growing rapidly, should have remained delicate; he is on the way to a *cor bovinum*

In the beginning, we alluded to this valvular lesion when we compared this case with the first one related, and pointed out that both had a similar organic affection of the heart for their ultimate outcome. To what period does the pathogenesis of this lesion date and what is it to be connected with as to causation? At the moment of operating—we have insisted on this point—the heart was deviated, but appeared healthy. Scarlet fever can then hardly be incriminated; except remotely, on account of its debilitating influence. Most likely the lesion has been the outcome of the infectious pleuritis, although it is difficult to determine the time at which it may have set in and when it became apparent. To settle this point would have required a closer observation than was possible.

If it be granted that the myocardial changes have been the direct consequence of the suppurative pleuritis, then this case differs from the first in that respect; for in the first case the cardiac affection seemed to have developed between the retropharyngeal abscess and the empyema, unless we admit that it coexisted with the later disease.

Thus, in one case (the first), the heart is affected before or at the same time as the pleura; while in the other (the second) it is affected after; but in both, it becomes affected after a suppurative disease of a very severe type.

Thus again, both cases have an eruptive fever for starting point (remote causes), and both terminate in a most grave alteration of the circulatory center (ultimate consequence).

Finally, such cases—as well as the other one reported (of pulsatile abscess of the præcordia)—are not unfair illustrations of the sad systemic influence of severe suppurative diseases; defective health or untimely death, under any ulterior provocation, however slight, being their natural result.

For the Annals.

A NEW METHOD OF TREATMENT OF CARCINOMA ŒSOPHAGI.

By Dr. WALTER ZWEIG,

Assistant in the Policlinic of I. Boas, Berlin.

In February of 1899 Rosenheim (*Therapie der Gegenwart*) described a new method of treatment for the dysphagia of patients with carcinoma œsophagi and its effects have been determined on the patients in our policlinic. The difficulty of swallowing in these cases is due not so much to the stenosis of the carcinoma but to a *spasm,* the result of the irritation following the attempt to swallow solid food. In many cases the spasm can be prevented by a very simple method and the patient can then swallow with relative facility. The procedure is as follows:

A lavation of the œsophagus is first made with a soft rubber stomach tube inserted to the place of stricture, with not more than 150 grams of water in order to prevent an eventual dilatation of the œsophagus as in most cases the œsophagus is the seat of a more or less pronounced catarrh produced by the stagnation of the food. Then 50 grams of olive oil are poured in and the tube withdrawn during the act of pouring, in order to spread symmetrically the oil over the mucous membrane of the œsophagus. In cases of especially severe pain, a four per cent. solution of eucain acts extremely well instead of oil. After two or three minutes the patient can cautiously eat solid food and this food passes down without much difficulty. This method of treatment can be repeated several times a day and always with good effect.

The value of this method consists:

First, it has a great moral effect on the patients. As they are able to eat solid food several times a day, they become hopeful and are no longer terrorized by the thought of carcinoma.

Secondly, the cachexia may be held in check by the increased amounts of food, which is ingested.

The third advantage is, that the duration of time before the gastrostomia can be prolonged. The gastrostomia, however must always remain the ultimum refugium.

With our material it was impossible to determine if the length of life can be protracted by this method. Six patients have been treated in this manner and the following histories illustrate the effect of this treatment.

1. April 4, 1899, G. M., 63 years old, workman, until October, 1898, always enjoyed good health. He ate during this period all kinds of food, but was forced to swallow a mouthful of water after every particle. Since the beginning of this year solid food cannot be swallowed, but only liquid.

The patient has lost thirty pounds in four months. He was a great eater and always ate very hastily. He thinks that he may have burnt his œsophagus by a hot drink.

Status præsens: Markedly cachectic; heart and lungs normal; abdomen strikingly retracted; the urine contains a small quantity of albumen, but no sugar. The patient can barely swallow water, while wheat bread is immediately regurgitated with choking. The soft rubber stomach tube meets with an invincible resistance thirty-seven c.m. distant from the teeth. One finds by the œsophagoscope at the same distance a very strong pulsating tumor which is irregular and hyperæmic.

Therapy: After lavation of the œsophagus by which a great deal of mucus is washed out, fifty grams of olive oil are poured in the manner described. The patient is then able to swallow wheat bread with meat without much trouble. The treatment was continued for two months, in which time he lost only three pounds. He swallowed liquid food and after every oil injection, solid food. Unfortunately the patient passed from our observation after this time.

2. July 19, 1899, Bernard B., 50 years old, farmer. In February of this year, difficulty in swallowing began and gradually increased until now he vomits all solid food.

Status præsens: Strikingly cachectic; the tube meets with an obstruction in the region of the bifurcation; lavation of the œsophagus brings out residual milk, raspberries and wheat bread. After an injection of fifty grams of oil he is able half an hour later to swallow wheat bread and eggs.

July 20. Repetition of the procedure. The patient describes himself as "new born."

July 22. The state of health is subjectively excellent. He returns to his native village and is ordered to continue the lavations at home.

July 28. The patient writes that he is very well contented with the state of his health. He is able to swallow coffee, milk, cakes and pork with caution.

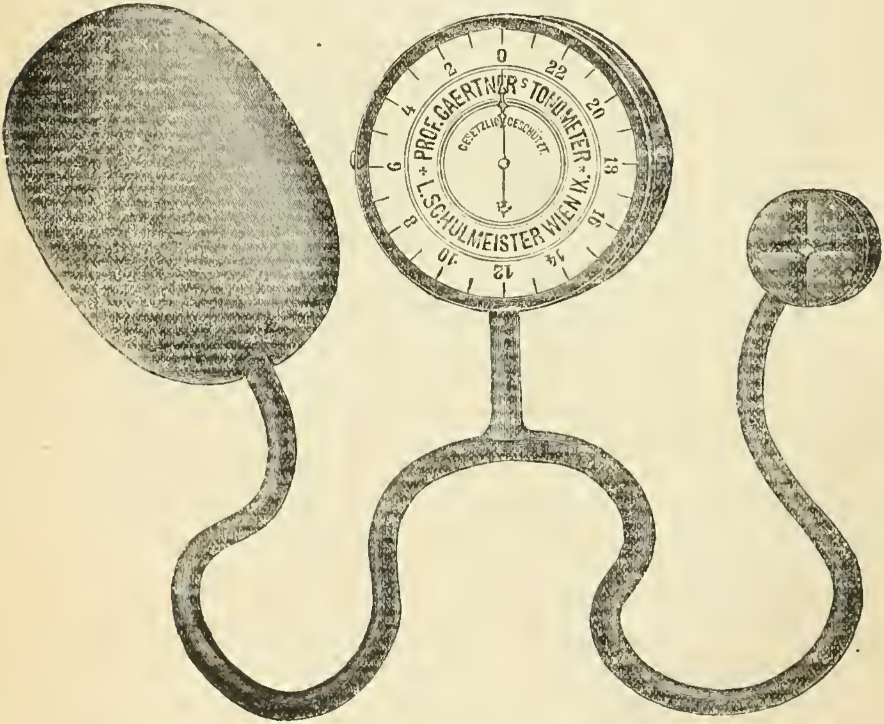
The histories of other cases could be added, but they are practically the same. The success of the treatment is in most cases quickly evident and the method may be employed in all cases of carcinoma œsophagi.

ARTERIAL TENSION IN CHILDHOOD.

By HENRY L. K. SHAW, M. D.,

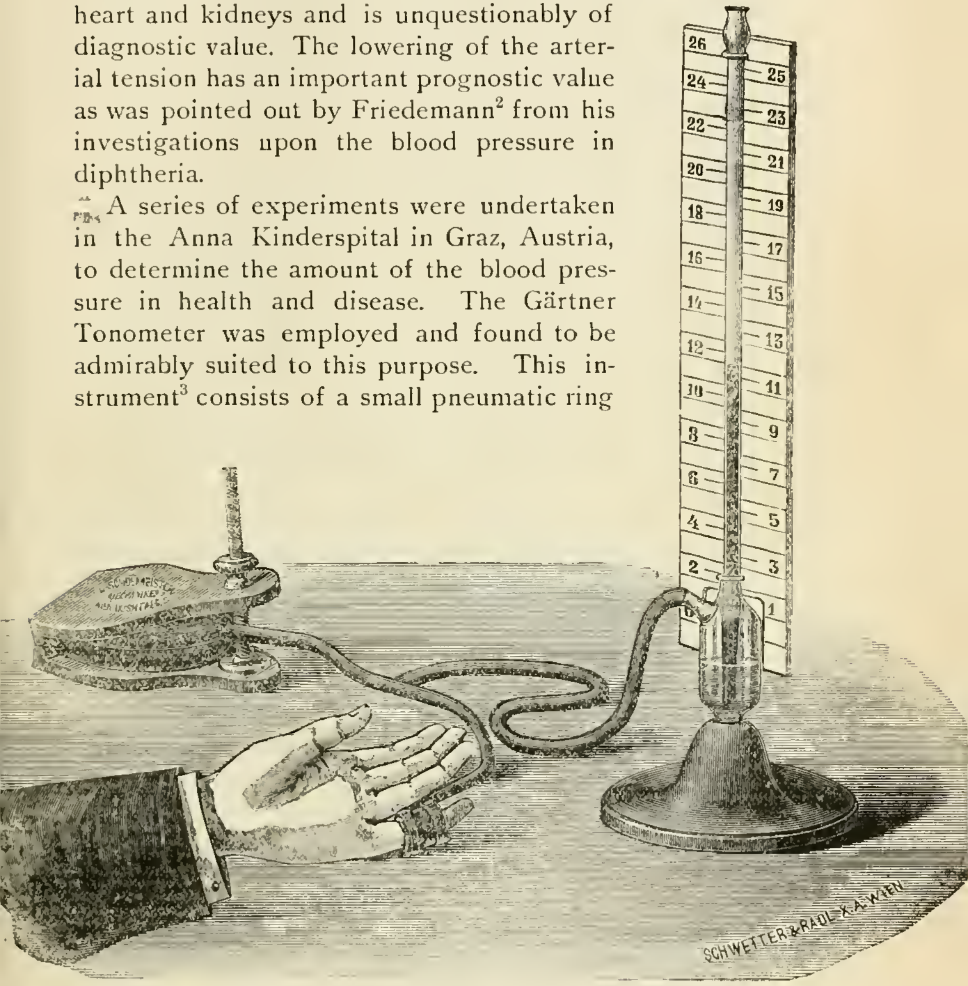
Graz, Austria.

The subject of arterial blood pressure in children is one which has not received the amount of attention it deserves. The reason for this lies partly in the extreme difficulty of determining it in the small rapid pulse of young children. Most of the clinical instruments designed to measure the pulse tension are too complicated and too difficult of application upon children whose restlessness and uneasiness are so well known to workers in this branch of medicine. Of its importance there can be no doubt, although very little reference is made to the blood pressure in most text books on children's diseases. Baginsky[1] calls attention to the role it plays and says that the determination of the pulse tension is



as important in the pathology of childhood as it is during adult life. This condition he claims can only be recognized by training the sense of touch through careful and continued practice and it shows certain and undoubted anomalies of the heart and kidneys and is unquestionably of diagnostic value. The lowering of the arterial tension has an important prognostic value as was pointed out by Friedemann[2] from his investigations upon the blood pressure in diphtheria.

A series of experiments were undertaken in the Anna Kinderspital in Graz, Austria, to determine the amount of the blood pressure in health and disease. The Gärtner Tonometer was employed and found to be admirably suited to this purpose. This instrument[3] consists of a small pneumatic ring connected by rubber tubing with a mercury manometer and rubber ball, the whole being air tight. Pressure on the ball forces air into the pneumatic ring and mercury bulb and the amount is accurately recorded by the manometer. The ring is placed over a phalanx of a finger which has been made



anæmic and a force is exerted on the rubber ball enough to create a pressure in the ring sufficient to compromise the digital arteries. This force is slowly reduced until the pressure exerted by the ring upon the arteries is the same as that of the blood stream upon the ring. The instant this occurs the finger will become hyperæmic and the amount of pressure recorded by the manometer is the same as the arterial tension. The chief advantages of this method lie in the ease and rapidity of application and in the use of the sense of sight in making the determination.

Over four hundred measurements were taken on forty-five children ranging in age from three months to twelve years.

From these experiments it was found that in normal conditions the blood pressure was sufficient to raise the column of mercury from 90 to 110 m. m. Gumprecht[4] found that with the Riva Rocci sphygomanometer the arterial tension in children was nearly constant at 100 m. m. The age of the child appeared to have very little influence on the amount of blood pressure. A very small pneumatic ring was employed and slipped over the first phalanx of the thumb or the second phalanx of the middle finger according to the size of the child. The first trial was often unreliable owing to psychical disturbances, fear, suspicion, etc., but when the children found that no pain attended the proceeding they welcomed the experiment as some new kind of game. For an accurate determination it is necessary to have the finger tip perfectly anæmic. This is accomplished by slipping a very small rubber band over the finger tip and rolling it down the finger as far as the joint. In small children it is better to do this before placing the pneumatic ring in position. When the hand is cold it is impossible to obtain a correct reading owing to vaso-motor disturbances. Placing the hand in warm water for a few minutes will easily overcome this difficulty. The pressure in the pneumatic ring was slowly reduced until the finger tip became distinctly pink. This color deepens and in a few seconds becomes an intense red so that there can be no mistake when the right point is reached. Variations in the arterial tension taken on the same patient were frequently observed but were slight and never exceeded ten millimeters. In eleven cases the pressure in the right hand was constantly greater by a few millimeters than that in the left. The reverse condition was found in four cases. Daily observations in the same children over a period of four weeks often showed variations of from two to ten millimeters.

In anæmia the blood tension was slightly above the normal. In one case it registered from 115 to 125 m. m., and in another during three weeks daily measurements the limits recorded were 110 and 120 m. m. Broadbent[5] calls attention to the high arterial tension in anæmia. There was a loud anæmic bruit in both these cases and in one a soft blowing systolic murmur which was heard distinctly over the apex and pulmonary area. The condition of the pulse wave pointed against an organic cardiac lesion.

In acute endocarditis the arterial tension is somewhat under the normal. Johann H., aet. 6½, was admitted to the hospital November 19, suffering from acute articular rheumatism. On November 24 a light blowing systolic murmur was heard over and confined to the apex. The arterial tension was 80 m. m., and continued low for nearly three weeks. The systolic murmur then became very indistinct and the arterial tension rose and remains between 95 and 100 m. m.

In acute nephritis the increased tension so constant in adults does not appear as marked in children. The following three cases will serve as examples:

Maria H., aet. 8, was admitted in the hospital November 28. There was no history of scarlet fever but patient had had measles two years before. Present illness began a month ago with abdominal pain and swelling of the face and feet. On admission there was no œdema. The heart was slightly enlarged with the apex beat in the fifth intercostal space and cardiac dulness extending 1½ cm. outside the left mamillary line. Albumin was plentiful in the urine and granular casts microscopically. The amount excreted in twenty-four hours was from 1,000 to 1,300 c.c. The arterial tension was rather constant at 110 m. m. and several observations were recorded of 118 m. m. The albumen disappeared and on December 14 the blood pressure registered 105 m. m.

Maria L., aet. 6, had measles in 1898 which was followed by varicella. There was no history of scarlet fever. The present illness began November 3, when the mother noticed swelling of the hands and feet. There had been no vomiting or convulsions. On admission, November 10, there was marked œdema of the abdomen, hands and feet. The urine contained much albumen, red and white blood cells, granular and epithelial casts. The twenty-four hours urine measured from 750 to 1,000 c.c. The blood pressure was not taken until November 23, when it registered 100. There were albumen and blood in the urine. The heart examination was negative. On December 10 albumen was absent from the urine and the blood pressure registered between 85 and 90 m. m.

Rosa B., aet. 7, had suffered from impetigo and extensive eczema capitis for two months. On admission to the hospital November 27 there was general anasarca and albuminuria. The heart was not enlarged. The arterial tension was high—130 m. m.—and diminished as the albumin in the urine grew less, and on December 14, when the urinary examination was negative the blood pressure was 110 m. m.

In diphtheria when there is cyanosis and dyspnœa with or without the intubation tube the arterial tension is increased. In several such cases the blood pressure ranged from 125 to 135 m. m. This high tension is explainable by the excess of carbon dioxide in the blood during the laryngeal and tracheal stenosis. Carbon dioxide has about the same action upon the capillaries as digitalis and stimulates the vaso-motor nerves thereby contracting their lumen and raising the blood pressure. In cases in which there were no laryngeal complications there was no change in the arterial tension. In one case the measurement was taken before and after intubation and a difference of 10 m. m. was observed. During convalesence when there is no disturbance of the respiration the tension sank into the normal limits.

The amount of blood pressure can be of great help in diagnosis. A five months old child was brought to the Out-Patient Department with puffy lids and general anasarca. It was impossible to obtain a specimen of the urine. The case was supposed to be post-scarlatinal nephritis as there was some desquamation. The blood pressure in several trials registered 75 m. m. The patient was admitted to the hospital where frequent examinations of the urine failed to reveal any albumen. In the hospital the tension has continued low. The case was diagnosed as a myocardiac affection from the low arterial tension.

These investigations are not claimed to be complete or exhaustive, but will, it is hoped, call the attention of the profession to the importance of arterial blood pressure in children.

In conclusion I would thank Professor Escherich for the permission to make the measurements and for his interest and many valuable suggestions.

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Correspondence

GRAZ, AUSTRIA.

December 20, 1899.

Graz is the Heidelberg of Austria. The natural beauties of the situation and surroundings compare favorably with the Neckar valley. The university here is larger and more modern although not so famous as that of its sister university town. Graz is the fourth city in size in Austria and is somewhat larger than Albany, having a population of 125,000. It is the capital of Styria and is situated on the river Mur. Its altitude makes it a very healthy city in spite of the fact that they have no system of sewerage and the sanitary arrangements are as primitive as those employed ten centuries ago. The university has upwards of two thousand students and seems to attract a very good class of men. The medical department has about seven hundred men enrolled. The professor of internal medicine, Dr. Crouse, was called from Vienna a few years ago and is widely known on account of his many contributions to medical journals. Dr. Nicoladoni, the professor of surgery, is more of an operator than writer. Professor Escherich has an international reputation in Pediatrics. The Allgemeine Krankenhaus is very old and contains about a thousand beds. In many respects it is similar to the one in Vienna. This is the only hospital in Graz and different grades of accommodations are offered, the first class paying a gulden and a half *per diem*, the second one gulden, and the third a few kreuzers. This inevitable continental class distinction is also in vogue about funerals and people can order a first, second or third class display in accordance with their purse or family pride.

The Children's Hospital is a separate building and situated about half a mile from the General Hospital. A few months ago extensive alterations and additions were made so that now it is one of the most complete and best arranged Children's Hospitals in this part of the world. It contains about eighty beds including medical and surgical cases. The laboratories are a special feature and exceedingly well equipped. Original investigations are welcomed and the men given every opportunity for research. The assistants now working there are all engaged in some special work in bacteriology, chemistry or pathology. There has been an atmosphere of work in this building for a number of years. Professor v. Jaksch was the director until 1890, when he was called to Prague, and it was here that he did most of the clinical work necessitated in writing his well known book on Clinical Diagnosis. Professor Escherich is a bacteriologist of no small fame and is the most indefatigable worker I have yet met. His private practice is swallowed up in his thirst for knowledge and he spends most of his time at work in his private laboratory in the hospital. He takes great interest in his little patients and his morning visits are very thorough and most instructive, as he takes pains to demonstrate the interesting features and frequently throws out valuable hints.

Among many interesting cases is one of acute gonorrhœal urethritis, vaginitis, cystitis and proctitis in a child of six. The patient was brought to the out-patient department with a vaginal discharge which on microscopical examination was rich in gonococci. The child suffered much pain on urination and the urine was cloudy. Stained preparations of the sediment showed pus cells, many of which contained the characteristic gonococci. The stools were observed to contain pus and the microscope revealed here also the presence of the gonococcus. Agar and blood serum cultures made from the urine and fœces contained pure colonies of this microörganism. The primary infection was undoubtedly in the vagina and extended from there into the bladder and rectum. This extension into the rectum is probably often overlooked as it produces few symptoms. Recently a number of cases were reported of gonorrhœal proctitis found in prostitutes. Gonorrhœa in children is of lamentable frequency. Its cause is more often accidental than vicious. In the poorer families an infection in either of the parents can very easily be transmitted to the children. Entire families using the same bathing water is a not infrequent source of contagion. The gonococcus seems to have a special virulence on the genitals of small girls.

Surgical treatment in all cases of appendicitis, advised and championed by American surgeons, is looked upon with much disfavor in Austria and Germany. One accustomed to seeing frequent operations preformed for appendicitis is almost startled by the very small number of such operations in the German surgical clinics. Dr. Edgar Van der Veer called attention to this in one of his letters to the ANNALS, and Dr. MacFarlane wrote of the medical treatment employed by Leube in Wurzburg and the wonderful results obtained. In Vienna I saw four cases of appendicitis completely recover in the medical wards and was led to make some inquiries concerning the treatment employed and advised by the German school. Nothnagel, by the way, seriously objects to the term appendicitis and would inflict upon us the word skoikoiditis, of Greek derivation. Four forms of appendicitis are recognized:

1. The catarrhal form which is by far the most frequent. The prognosis in this form is very good.

2. The stenotic form, where, owing to contraction in the lumen of the appendix, there is much pain of a coliky character. The prognosis is considered good.

3. Purulent form. This is generally a perityphlitis and the prognosis is unfavorable.

4. Abscess. This may become encapsulated and open into one of the neighboring organs. Surgical interference is indicated in the third and fourth forms.

In the first stages of the disease the appendix is inflamed and hyperæmic but no pus is present. An exudate is then thrown out which after a few days envelopes the offending member and the true condition becomes hard to recognize.

They do not operate in this stage and claim that if these cases are not interfered with they will heal spontaneously, whereas an operative procedure is liable to set up a peritonitis. Unless they have positive indications they never operate during the first attack. My informant assured me that relapses occur only in 20 to 30 per cent. of these cases. As a rule an operation is not advised until after the second attack. There are a very few German surgeons, notably Carl Beck and his school, who advocate the abortive operation and remove the appendix after the disease has lasted a few hours but they refuse to operate after the appearance of the exudate. Strümpell wisely advises that it is better to operate early than too late. The indications for the operation are:

1. When the acute condition has continued for more than two weeks with high fever and much pain.
2. When a large fluctuating abscess is detected.
3. When the process spreads and is no longer localized.
4. When a perforation occurs.
5. In the interval after the second attack.

The treatment of appendicitis carried out in Professor Nothnagel's wards is as follows: A complete rest of the intestinal tract is the main object to be attained. To this end they give large and frequent doses of opium. One case I saw was receiving one and a half grains of opium every two hours. The first few days the patient is almost starved and is given only an occasional teaspoonful of milk. Throughout the entire disease a rigid milk diet is enforced. The patient must lie quietly in bed and an ice bag is kept constantly over the right iliac region. For the constipation produced by the opium they give no laxatives but later on low enemas are allowed.

The seed of intubation sown by O'Dwyer in Germany fell upon good ground and is now bearing fruit even an hundred fold in saving thousands of lives. In this case at least the Germans give honor to whom honor is due. In the four diphtheria pavilions I have visited, the only picture in three and the only one outside of religious subjects in the other was either a photograph or engraving of Dr. O'Dwyer. All the children's hospitals are unanimous in advocating its use and the only divergence of views lies in regard to its utility in private practice. Before the recent Medical Congress in Munich Dr. Trumpp in a very strong paper pleaded for its more general employment outside of hospitals. He collected much information from practitioners of all lands as to their experience and the results gave a strong support to his plea for the use of intubation in private practice.

H. L. K. SHAW.

Editorial

"Psychopathic Hospitals"

In the annual address to the American Medico-Psychological Association, Dr. Frederick Peterson (*American Journal of Insanity, July, 1899*) discusses the probable direction of progress in the future care of the insane, and points especially to the discrimination between acute or recent and chronic cases of insanity. In the care of the latter the custodial feature predominates, and what has long been known as moral and environmental treatment has been emphasized in hospitals for the insane. There remains little to be done for this class beyond provision now recognized as essential: home-life, employment, recreation, hygienic buildings and orderly living have been secured in many localities, and principles are well established. In respect of the recent cases, however, problems as to methods are still under consideration, and in process of solution. It has been determined that there must be a clear dividing line between the acute and chronic cases, and that the medical, hospital treatment of the former offers a distinct contrast to the demands of the latter. In the large State hospitals this distinction has in many instances been recognized, but structural and administrative changes come slowly, and the ideal is still to be attained.

The need of provision for prompt emergency treatment of acute cases is generally appreciated, and Dr. Peterson believes that the first twenty years of the coming century will develop special hospitals or special pavilions in connection with existing general hospitals for the reception of acute cases of insanity in every city of from 50,000 to 100,000 inhabitants. Such institutions would be known as hospitals for nervous or mental diseases, or, as has been suggested, "psychiatric clinics," or "psychopathic hospitals." The name, however, is less important than the fact, but avoidance of all distinctive title would most emphatically place these patients where they belong, as subjects for general medical treatment.

There can be no reasonable dissent from the proposition which has been so concisely summarized by Dr. Peterson, and it is with no small degree of satisfaction that the ANNALS is able to announce that the pioneer institution of the kind is to be built as an additional pavilion to the new Albany Hospital. The abuses in the management of acute cases of insanity in Albany have long been known, and some especially flagrant instances during the last year attracted public notice and resulted in a concerted effort on the part of the practitioners of the county to secure a proper building. In response to their earnest representations the County Board of Supervisors have appropriated eighteen thousand dollars for the erection of this pavilion and plans are now under consideration. It is anticipated that cases of acute delirium, alcoholic or otherwise, may be here protected from dangerous delays and neglect; that doubtful cases may be observed during consideration of the proper disposition to be made; and that commitments may be carefully and judiciously considered to the advantage both of the patient and the State institution to which he may be sent. Other possibilities suggest themselves, and the development of the field of usefulness of the new institution will be watched with interest.

The proper claims of the insane are now met, and the experience to be developed in this annex to the Albany Hospital will reveal in great measure the extent to which it is desirable to carry the plan for the treatment of the acute insane in local hospitals.

The Hepatic Diathesis

Glenard, who has done such good work in bringing to the attention of the medical profession the frequency and significance of gastroptosis, shows in his recent volume "*Les Ptoses Viscerales*" how narrow and circumscribed such original workers often become and how a small fact may in their minds become the most important. He lays great stress on the existence of a hepatic diathesis and claims that certain diseases of metamorphosis are often associated with changes in the liver and the functions of this organ. This change is the beginning and cause of the group of diseases commonly classed in France under the name "arthritisme." This hepatic diathesis—recognized by palpable changes in the liver—descent, total and partial enlargement, deformity of the individual lobes, variations in the form, consistence and sensitiveness of the lower border—determines not only diabetes, gout, adiposity, chronic rheumatism, gall and renal stones, but a number of other diseases as forms of enteroptosis, many diseases of the gastro-intestinal canal, neurasthenia, migraine, asthma and some affections of the skin. These all show manifestations of this hepatic diathesis and indicate developmental periods as they may follow one after another in the same person. This diathesis is either inherited or developed from causes of a toxic, infectious, emotional or traumatic nature.

Status Lymphaticus and Diphtheria

The unexpected and sudden death in young children which formerly were unexplainable and recently attributed to the hypertrophy of the thymus, have been investigated by Dant in the *Jahrbuch für Kinderheilkunde*, more especially in reference to their recurrence in the course of diphtheria when antitoxin or cardiac failure without any previous heart weakness is said to have been the cause. Dant refers to Paltauf's opinion that the hypertrophy of the thymus together with the swelling of the spleen and hyperplasia of the lymphatic tissue is only part of an abnormal physical constitution of a lymphatic-chlorotic nature. Escherich also attributes many unexpected deaths occurring in the course of diphtheria to this cause and divides twenty-seven such cases in the years 1894 to 1897 into three groups:

1. Cases in which this condition was the direct cause of the unexpected rapid death as it was strikingly prominent and other cause of death could not be discovered.

2. Cases where in the presence of complications, as pneu-

monia, occlusion of bronchi, the status lymphaticus had a marked influence on the course of the disease.

3. Cases of septic diphtheria in which *post mortem* the status lymphaticus was determined and the clinical symptoms did not indicate such a rapid ending of the disease.

Unfortunately the clinical picture of this lymphatic dyscrasia is not yet so distinct that a diagnosis can with certainty be made from the symptoms but it is often first suspected from the rapid occurrence of death. It is highly probable that a number of sudden deaths in children with acute diseases are due to this condition.

Scientific Review

Pathogenesis and Surgical Treatment of Hysteria. E. LAMBOTTE. *Presse Médicale Belge, 29 Oct., '99.*—From the earliest times observers have supposed a relationship between hysteria and some unknown lesion of the genital apparatus, and this belief, having become popular, has been continued till now. The evident correlation of neurosis with puberty, gestation and the menopause are among the causes for this pathogenic conception. It must be recognized, however, that this has always been and still is only a vague hypothesis, an obscure intuition haunting the medical mind. The nature, seat or physiologic mechanism of the lesion has never been precisely stated. Even the hypothesis has many adversaries. The malady was long supposed to be exclusively feminine and the uterus was specially incriminated. The discovery of male hysteria seemed to shake the foundation of the theory. "Reflex irritation" became the shibboleth. The classic neurosis remained distinct by the very obscurity of its origin. Antisepsis induced some surgeons to seek an operative solution of the problem. Uterine ablation, one-sided or bilateral ovariectomy, tubal resections, uterine repositions and even clitoridectomy resulted. Tait removed the annexes. The aim was either artificial menopause, sterility, frigidity, the suppression of chronic pains or a vague modification of the nervous system. The attempt to explain or cure by surgical, operative intervention, failed; then followed the reaction.

Spencer Wells was the first to vehemently oppose the dangerous exaggeration of the laparotomy that had become almost epidemic. He said the ovary, sick or well, is the nucleus of gynecology; that double ovariotomy is inadvisable in nervous diseases and psychoses. He jocosely suggested that female physicians might attain the majority and have recourse to reprisals, having men, nervously ill or not, castrated. In 1887 Willers reviewed spaying as it figured in medical literature and concluded that it gave the worst results and in no wise cured neuroses. In 1891 Playfair reported four of Tait's operations, done to remedy simple neuroses:

1. Painful neurosis; no benefit from operation; cured, finally, by medical treatment.
2. A similar case; the operation was about to be performed when the patient declined it and was later cured by Playfair's systematic treatment.
3. Neurosis, with concomitant lesions of the uterine annexes, result of operation being amelioration.
4. Hystero-epilepsy and mania, unsuccessfully treated by operation. Playfair opposes such operative practice and declares ablation of the annexes not justified in cases of functional neurosis. Angelucci and Pieraccini conclude that if some operation must be done, a simulated one, with effusion of blood, is best; Greig-Schmidt says castration of men is really quite as proper, as a remedy for nervousness, as the indiscriminate spaying proposed by Gadlee of mentally diseased women presenting abnormal, sexual propensities. The author wonders how so superficial a theory as that of reflex irritation could have accquired or can maintain the empire it exercises over the medical mind.

Thousands of lesions of the organs in question exalt the irritation a hundred fold, without the least indication of the neurosis appearing. Irritations appear purely dynamic, hence only nervous filaments can transmit them to the centres. This error is flagrant and double. Nothing proves that the "irritation" is not a material principle, and the vasculatory system is quite as proper a channel for the dissemination and transport, to the centres, of the morbid principles.

In a later article will be reviewed, the author promises, the principal facts relating to hysteria. Some operative success has determined his conviction: he says he has been guided by a hope of discovering to what causes the failures ought to be imputed, of stating precisely what conditions the operative act ought to fulfil, in order that he might entertain a reasonable opinion about the pathogenesis of hysteria.

C.

State Medicine

Edited by Harry Seymour Pearse, M. D.

State Hospital for Consumptives.—Senator George A. Davis has introduced in the Senate the bill for the establishment of a State Hospital for the treatment of incipient pulmonary tuberculosis in the Adirondacks.

The bill appropriates $200,000 for the purchase of a site and the erection and equipping of the hospital. The bill authorizes the Governor to appoint with the consent of the Senate a board of nine trustees, two of whom shall be residents of the same judicial district, two of whom shall be physicians and two of whom shall be women, the term of office of one member to expire each year. The trustees shall receive no compensation but shall be allowed $600 a year each for traveling expenses. Any trustee may be removed from office at any time by the Governor with the consent of the Senate.

This Board of Trustees shall take care of the general interests of the hospital and maintain an effective inspection of its affairs and management. The Board is also required to make a full report annually to the State Board of Charities, and the State Board of Charities shall in its annual report to the Legislature certify what appropriations are necessary.

The Trustees are given power to appoint a Superintendent of the hospital who shall be a well educated physician not a member of the Board of Trustees. The Superintendent shall appoint all necessary employes and fix their compensation. The Trustees shall also appoint a Treasurer who shall have custody of all the funds of the institution. Either of these officers may be removed at any time by the Trustees. All medical assistants and examining physicians are to be appointed by the Trustees upon the nomination of the Superintendent.

The Trustees are given power to receive patients who have no ability to pay, but no person shall be admitted to the hospital who has not been a citizen of this State for at least one year preceding the date of application. Every person desiring free treatment shall apply to the local authorities of his or her town, city or county having charge of the relief of the poor, who shall thereupon issue a written request to an examining physician in the same city or county for examination. No person shall be admitted as a patient without the certificate of one of the examining physicians certifying that such applicant is suffering from incipient pulmonary tuberculosis. The local authorities having charge of the relief of the poor shall state in writing whether the person is able to pay for his or her care and treatment while at the hospital, which statement shall be attached to the certificate of the examining physician and filed with the Superintendent of the hospital Every person who is thus declared to be unable to pay for his or her care or treatment shall be transported to and from the hospital at the expense of the local authorities. Applicants who are able to pay for their care shall apply in person to one of the examining physicians but preference shall always be given to indigent patients.

The Superintendent is required to furnish to the Comptroller each month a statement of all the free patients and the Comptroller shall collect from the local officials the sums due for the care of the patients.

Important Bills in New York Legislature.—Assembly bill No. 22; Senate bill No. 7. An Act "In relation to Offensive Trades in the Borough of Brooklyn."

This law prohibits any person or corporation from carrying on the business of bone boiling, burning, grinding, horse skinning, or the skinning of dead animals or the boiling of offal, and provides that the Board of Health shall ascertain whether any such trade or business is being carried on, and shall direct its discontinuance.

Senate bill No. 11. An Act "Empowering the Commissioner of Agriculture to investigate food adulterations and adulterated foods, and making an appropriation therefor."

The Commissioner of Agriculture is authorized to examine food products and may employ such agents, chemists and other experts as he may deem necessary. The sum of ten thousand dollars is appropriated for the purposes of this act. The Commissioner shall make annual recommendations to the Legislature.

Senate bill No. 19. An Act "For the regulation of pharmacists and druggists, and to prevent accidents and mistakes in the preparing and compounding of prescriptions in the city of New York."

No pharmacist shall be required to work more than twelve hours in any one day, and not more than one hundred and thirty-six hours in two consecutive weeks. No clerk shall be required to sleep in a pharmacy or laboratory connected therewith. It shall be the duty of the Board of Health to adopt rules and ordinances for the enforcement of this act.

Senate bill No. 24. This is an act to repeal a certain chapter of the laws of 1896 entitled an act "relative to the supply of pure and wholesome water in certain counties of this State."

Medical News

Edited by H. Judson Lipes, M. D.

ALBANY MEDICAL COLLEGE ALUMNI ASSOCIATION OF THE CITY OF NEW YORK.—The fifth annual banquet of the Association was held at the Hotel Savoy on the evening of January 19th. The table, garnished with flowers and greens, was spread in the parlor dining-room. At its head sat the Vice-President, Dr. Robert F. Macfarlane, who presided at the dinner in the absence of Major Kimball, the President, and right and left of him the Association's guests. At two wings were the members.

Dr. Raymond, President of Union College, was expected, but unlooked for business detained him. But Profs. Albert Vander Veer and Samuel B. Ward were on hand to speak for the medical department. Mr. Chester S. Lord sat at Dr. Macfarlane's right, and at his left, Major T. Bentley Mott, Assistant Adjutant General of the Department of the East, U. S. A.

The other guests were Dr. John B. Chapin, Superintendent of the Pennsylvania Hospital for the Insane, Philadelphia; Dr. George Henry Fox, professor of dermatology at the College of Physicians and Surgeons, and Mr. George W. Kirchwey, professor of law in Columbia University. Major Kimball was kept away by a severe cold which threatened further complications. He sent his annual address, and this was read by Dr. Macfarlane.

Dr. Kimball referred in laudatory tones to his *Alma Mater,* and referred to the members of the faculty by whom he was taught. After thanking the Association for the honor conferred upon him in selecting him as its President, he spoke upon the "Army's Medical Service," concluding as follows:

"Since the beginning of the Spanish-American war this department, in common with other branches of our army, has suffered so much reckless, often hostile, criticism that I have sometimes feared lest the service should become discredited in the estimation of my brother practitioners in civil life.

"That the medical service of the army during the early part of the war was without flaw or blemish no one will contend. Typhoid fever ravaged our camps, field hospitals were overcrowded, there was suffering which need not have been had due preparation for war preceded its outbreak.

"The situation has been forcibly stated by the Surgeon-General of the Army, who has said: 'A trained medical corps hardly adequate for an army of 25,000 men, cannot control the sanitary situation when this army is quickly expanded to 250,000. Physicians and surgeons from civil life, however well qualified professionally, as a rule are not prepared to assume the responsibilities of officers charged with administrative duties and the sanitary supervision of camps.' And we may add that with new levies of untrained and undisciplined troops, it is impracticable to enforce proper sanitary regulations in camp.

"But these conditions were only temporary. A knowledge of administrative and executive duties was gradually acquired, as was also a mastery of the system of accounts, requisitions and records, sometimes derisively referred to as red tape, but a system which is necessary in the conduct of every large office or business. Furthermore, new and most valuable features were introduced by the medical department, as for instance the hospital ships, which have done such splendid service.

"And now, although our troops were subjected to the debilitating influence of campaigning in the tropics, though they marched through malarious jungles and lay in trenches dug in a malarious soil, though they were encamped in yellow fever districts, though the clamor which arose about overcrowded and undersupplied transports was loud and long, though tales of woe were told of the camps from Tampa to Montauk, yet we can now assert, and maintain the assertion from the records, that the mortality from disease during the war with Spain was low. In the first year of the civil war the death rate from disease was 46 per thousand. From May 1, 1898 to April 30, 1899, the death rate from disease in our army was 26 per thousand.

"Of this result, under the adverse conditions present, we may justly be proud, due, as it is, to the advancement of medical knowledge, to the zeal and ability of the medical officers, to the professional devotion which led the surgeon, volunteer and regular to place duty above all other considerations; even, if need were, to the sacrifice of his own life."

Prof. Vander Veer, who with Dr. Ward, represented the faculty, was brief. He expressed his pleasure at meeting the boys he taught now on the high road to success in their professional work. When he last saw them three years ago, he said, he told them that there were three great projects afoot in Albany. One of these was the building of a new hospital for the college. At that time there was not even the first dollar in hand for the hospital. Nevertheless, it had been built and fully equipped, and now the Albany Medical College, in this respect, was not behind any other medical institution in the country. What was now wanted was a college building, for which there was a very pleasant site on the grounds. Prof. Vander Veer gave some figures to show the growth of the institution. Less than twenty-five years ago it had only forty students; two years ago it reached high tide with 230. The faculty, he said, wished him to convey to the diners its best wishes, and to say that the association gave it great encouragement.

Major Mott, who has seen service in Cuba and the Philippines, spoke of the latter. "Manila," said Major Mott, "was a beautiful city. In some respects it was well advanced. There were many people of education among the Tagals; what they needed was education in the plain, everyday conceptions of honesty. It was not more possible for them to conceive why an American does a thing because it is right, than the American can conceive why a Hindoo woman buries herself in her husband's grave."

Dr. Fox, after a preface of anecdotes, paid a high tribute of admiration to the Albany Medical College, which, he said, stood in the foremost rank of medical colleges, and was everywhere held in high respect by physicians and medical teachers.

The good humor of the evening was materially augmented by the remarks of Dr. Ward. He also gave an account of what had been done at the college within the last few years, and described at considerable length the new hospital. For this building, he said, the college was chiefly indebted to Dr. Vander Veer, for it was he who had raised nine-tenths of the money and done nine-tenths of the work.

Dr. Chapin, the next speaker, reviewed the accomplishments in medicine of the century just closing. He mentioned the various discoveries of remedies, and spoke of the new methods pursued in the treatment of disease. With respect to his own specialty, he said:

"One hundred and three years ago the first provision for the treatment of the insane of New York was made in the New York Hospital, and forty-six years elapsed before the State Hospital at Utica was opened. In 1844 the first national medical association was organized, composed of thirteen medical superintendents of hospitals for the insane. From that date the general recognition and study of insanity as a disease to be treated by physicians may be said to have systematically commenced in this country.

In this connection should also be noted the remarkable contributions made in later years to the previous limited knowledge of the physical disorders of the nervous system by the neurologists. During the century a department of medicine has been created that was not recognized at the beginning of it, and hospitals for the insane and other diseases are in existence in all civilized countries of the world."

The officers of the association are as follows: President, Major James P. Kimball, M. D.; Vice-President, Dr. Robert F. Macfarlane; Secretary, Dr. Warren C. Spalding; Assistant Secretary, Dr. Bernard Livingston; Treasurer, Dr. Edward F. Quinlan; Governors, Drs. M. L. Rhein, A. Parker Muir, Frederick W. Loughran, William F. Holcomb and James H. Mitchell.

The Committee of Arrangements were Drs. Horace Tracy Hanks, Benjamin F. Vosburgh, Allen Fitch, M. L. Rhein, John A. Cutter, Henry F. C. Muller, Theodore Y. Kinne, C. DeW. Van Dyck, Josiah Hasbrouck, Thomas H. Willard and Edward P. Lasher.

Among those present were Drs. William H. Thompson, '59; Christian Kiersted, '46; Major T. E. Wilcox, '64; Thomas D. Crothers, '65; Edwin Barnet, '65; Edward F. Quinlan, '68; John H. Cotter, '78; C. DeW. Van Dyck, '79; M. L. Rhein, '80; Warren C. Spalding, '81; John A. Cutter, B. S., '86; George H. Baker, '86; Thomas H. Willard, '87; Robert F. Macfarlane, '88; George M. Fisher, '89; F. S. Snow, '89; John Henry Cotter, '94; P. J. Fagen, '96; B. Livingston, '99; Fred Loughran, '90; J. L. Witbeck, '90; Judge J. G. Wells, George W. Olivit and Dr. Aug. Knight.

THE MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—Meeting held January 17, 1900, in Alumni Hall.

The following members were present: Drs Aekert, Bailey, Blumer, Cook, Craig, Culver, Davie, Hale, L., Hale, W. S., Happel, Lipes, MacFarlane, Moore, C. H., Munson, Stillman, Theisen, Van Allen, Vander Veer, Van Rensselaer, Ward, Winne.

The meeting was called to order at 9 P. M., Dr. Van Allen in the chair.

1. Reading of the minutes of the last regular meeting.

It was moved by Dr. MacFarlane and seconded by Dr. Theisen, that as the minutes had been already printed they should be adopted as printed. Carried.

2. No minutes of special meetings.
3. No reports of committees.
4. No applications for membership were received.
5. No motions or resolutions were presented.
6. Miscellaneous business.

Under this head Dr. VANDER VEER presented a letter from the Surgeon General in which he requested the support of the Society for a bill to be introduced into the Legislature increasing the number of medical officers in the regular army. The Surgeon General pointed out that such an increase was imperative, both on account of the numerical increase in the army, and on account of the increased work thrown on the corps from the addition of our new possessions.

Dr. VANDER VEER also read a letter from Dr. Hoff, of the Department of Porto Rico referring to the same bill, and asking the support of the Society to aid in carrying it.

Dr. VANDER VEER then made the following motion: Moved that it is the sense of this Society that this bill should be endorsed, and that the Secretary be instructed to inform the U. S. Senators from this State, and the Congressman from this district of the Society's endorsement.

Seconded by Dr. WARD, and carried unanimously.

Dr. VANDER VEER then stated that he had been in communication with Mr. J. Russell Parsons, Jr., concerning the exhibition of the so-called Damon Vitapathic establishment. He stated that it had been determined that this establishment was operated by Damon, with the help of a Dr. Olmstead. The former examined patients whilst the latter prescribed. Dr. Olmstead was found to be a graduate of the medical department of New York University and a legally registered practitioner, consequently nothing could be done to reach these vitapaths.

Dr. VANDER VEER inquired of the President if the Board of Censors had looked into the matter?

Dr. VAN ALLEN replied that they had not done so, but that he, himself, had inquired into it and had reached the same conclusion as Dr. Vander Veer had.

Dr. VANDER VEER also read a communication from the Surgeon General relating to the re-introduction of Senator Gallinger's bill "For the Further Prevention of Cruelty to animals in the District of Columbia." He read a letter from Dr. W. W. Keen, President of the American Medical Association, on the same subject. Both writers spoke of the pernicious character of the bill, which was an entering wedge for bills in other parts of the country, which would greatly interfere with experimental medicine.

Dr. VANDER VEER then introduced the following resolution: Moved that it is the sense of this Society that this bill is a pernicious measure, and that the Secretary be instructed to request our State Senators and our Representative in Congress to oppose it.

The motion was seconded by Dr. Ward and carried unanimously.

7. Reading of papers.

Dr. W. O. STILLMAN read a paper entitled "The History of Gonorrhœa."

The President suggested that as both papers of the evening were on the same subject discussion should be reserved until the second paper had been read.

Dr. A. W. ELTING then read a paper entitled "The Bacteriology of Gonorrhœal Infections."

The President then declared both papers open to discussion.

Dr. WARD remarked that the papers were both so complete and interesting that there was little left to discuss and no place for contradiction. He stated that it was not so long ago since the separation of the three main forms of veneral disease was established He could remember Bumstead teaching the difference between gonorrhœa, syphilis and chancroid in the old Twenty-Third Street School, and could remember his controversies with some of the older men who still held to the English views of that day.

He thought that proof of the occurrence of the different diseases was now positive. He wished to move a vote of thanks to Drs. Stillman and Elting for their papers.

Dr. VANDER VEER seconded Dr. Ward's motion and congratulated Dr. Stillman on his paper, as being both very complete and much to the point. He stated that in 1876 he had had to get up a paper on syphilis and was surprised to find how many writers even at that time believed in the unity of syphilis, gonorrhœa and chancroid. The distinction was found in those days in but few books. He was much interested in the second paper on account of the accuracy with which the dates of the various phases in the subject had been given. He referred to the work of Bernard and Goupil, published in the Sydenham Society's Transactions, and stated that they clearly recognized the relation between gonorrhœa and pus tubes and referred to the frequency of the latter in prostitutes. He referred to the urethral localization of gonorrhœa in the female and the freedom of the vagina from signs of infection. He suggested that the lactic acid in the vaginal secretion and the impenetrable character of the vaginal mucosa might account for this. He stated his belief that when uterine infection once occurred in a woman the disease could never be cured. He also spoke of the seriousness of the disease in the male and cited the case of a professional man who, as the result of gonorrhœa, followed by prostatitis and vesiculitis, had become almost impotent. He suggested that the reason why more prostitutes did not become pregnant was because of gonorrhœal disease of the tubes and not on account of any special precautions taken to prevent conception.

Dr. WARD referred to Nögerrath's statement "Once infected, always infected," and said that, considering the number of cases in which young men, who had had gonorrhœa, subsequently married and had healthy wives and children, he did not think the statement would hold water. He also referred to Bumstead's advocacy of nitrate of silver as an injection when everything else failed, and said that the action of this drug, then little understood, was now explained by its effect on gonococci.

Dr. THEISEN stated that he had been much interested in both papers, but particularly in Dr. Elting's reference to gonorrhœal rhinitis. He referred to a case recently reported by a German observer of gonorrhœal rhinitis in a child. The child had also ophthalmia neonatorum. The mother had been infected by the father, who had both gonorrhœa and syphilis. Dr. Theisen also referred to Finger's attempt to inoculate the disease into animals. These were carried on whilst he was in Vienna but none of them successful.

Dr. STILLMAN congratulated Dr. Elting on the logical presentation of his paper and referred to some cases he had recently seen. One a young woman originally infected three years ago who had no symptoms until a few days ago when she consulted him with pain and tenderness of the vagina and uterus. These organs were inflamed and gonococci were found in cover slips from them. Dr. Stillman thought he could exclude a second exposure of the disease, and that this case was an example of a return after a long period of quiescence. He also cited a second case in a young woman who had had gonorrhœa five or six years ago and now had cystitis and urethritis. He had not examined cover slips but thought that this was also undoubtedly gonorrhœal. He thought that these cases showed that if a woman was infected once she was always infected.

Dr. MacFarlane referred to an experience he had had at St. Peter's Hospital. A child was brought into his service with a vaginal discharge, said to have been due to attempted rape. The man accused of the crime subsequently admitted the attempt and evidence was found to show that he was suffering from gonorrhœa. The vaginal discharge in the child contained intra-cellular cocci which were at first thought to be pseudo-gonococci, but which were subsequently found to decolorize by Gram. Dr. MacFarlaue wishek to ask Dr. Elting whether pseudo-gonococci were more frequent in young children, and whether decolorization by Gram was proof positive that the organisms were gonococci?

Dr. Elting replied that the Gram method was absolutely positive and that he knew of no literature showing that pseudo-gonococci were unusually abundant in young children.

Dr. Stillman inquired if pseudo-gonococci were ever as numerous as gonococci usually were in the discharge?

Dr. Elting replied that they were, as at some stages of the disease very few gonococci were present.

Dr. Craig wished to ask how much the gonococci must lose in virulence before other organisms could gain a foothold and also if the clinical course of the disease was changed by mixed infection? He also asked regarding the transmission of gonococci by the lymph vessels and said that he had been under the impression that in gonorrhœa bubo the cocci were carried in that way.

Dr. Elting replied that the gonococci had been isolated from buboes in so few cases that it seemed unlikely that they were often carried by the lymphatics, although they were found in the lymphatics in the sub-epithelial tissue of the urethra. He thought that it was agreed that they were generally carried by the blood vessels. The gonococci were generally found alone in the early stages of the disease, secondary infection generally occurred in the later stages.

Dr. Ward asked in how many cases only the gonococci were found?

Dr. Elting replied that only gonococci were found in nearly all cases in the acute stages.

Dr. Vander Veer referred to the tendency to peri-urethral abscess and other complications in gonorrhœa in individuals with a tuberculous tendency. He asked Dr. Elting as to the composition of the discharge at the height of the disease.

Dr. Elting replied that the discharge consisted mainly of polynuclear leucocytes and gonococci. The latter were mostly intra-cellular. A few epithelial cells were present. The gonococci tended to remain superficial but sometimes attacked the deeper tissues.

Dr. Craig then presented a specimen of intestine removed in the dissecting room. The specimen showed the cæcum and a part of the ileum and was presented as it showed an apendix originating above the level of the ileo-cæcal valve. There was also present a cord-like body springing from the lower end of the ileum about opposite the ileo-cæcal valve. He thought this might be a Meckel's diverticulum though it was in a very unusual position for this.

A motion to adjourn was made and seconded. Carried.

T. F. C. VAN ALLEN,
President.

GEORGE BLUMER,
Secretary.

UNION MEDICAL SOCIETY.—The Union Medical Society, comprising Saratoga, Rensselaer, Washington, Albany, Bennington and Berkshire counties, held its quarterly meeting in Holmes' Hall, Hoosick Falls, Friday, January 19, 1900. Dr. Homer Bushnell, of North Adams, Mass., the president, occupied the chair. The following papers were read and discussed: "Frontal, Ethmoidal and Maxillary Sinusitis," B. S. Booth, M. D., Troy; "Report of Rare Cases in Fifty Years of Practice," S. A. Skinner, M. D., Hoosick Falls; "Collections and Investments by the Physician," F. W. Goodall, M. D., Bennington, Vt;"Dystocia Caused by Death and Putrefaction of the Fœtus," Martin M. Brown, M. D., North Adams, Mass.; "Ophthalmia Neonatorum," L. F. Adt, M. D., Troy; Report of a Case, C. E. Nichols, M. D., Troy; Reports of Cases, John B. Harvie, M. D., Troy.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—The Secretary of this Association, Dr. C. B. Burr, of Flint, Michigan, announces that the next meeting of this Association, under the presidency of Dr. Joseph G. Rogers, of Logansport, Indiana, will be held at Richmond, Virginia, May 1, 2, 3 and 4, 1900. Numerous expressions of appreciation of the selection of this charming southern city as a meeting place have been received from members and a large attendance is confidently predicted. The Executive Committee is busily at work on arrangements for the meeting and when these are perfected an announcement of plan and program will be made.

THE MEDICAL STANDARD.—With the December number of this journal Dr. George F. Butler resigned the editorship to engage in another journalistic enterprise, in which his special abilities will have the most congenial scope. The chief editorial responsibility of the *Medical Standard* now devolves on Dr. Alfred V. Burdick, the previous managing editor. New features are announced. The May or June number will be a complete history of the medical schools of Chicago, and during the year the *Standard* will contain a series of illustrated articles describing the medical schools, *et cetera,* of Europe and America.

THE PROVIDENCE MEDICAL JOURNAL.—A new quarterly journal has made its appearance and is published by the Providence Medical Association with Dr. George D. Hersey as Editor, and Dr. F. T. Rogers, Business Manager. The object in view is to publish the papers of value which are read before the several local and State societies; to report the interesting cases which occur in the hospitals and to record for future reference the medical matters of interest to the profession of the State which would not otherwise be made a matter of record. A peculiar feature of the journal will be that it is to contain only original matter. We wish success to our *confreres.*

Professor Schenk Removed.—Dr. S. L. Schenk, professor of embryology, histology, and director of the Embryological Institute at the University of Vienna, has been retired on a pension. This action is an answer to a petition from the medical faculty of the University alleging the publication in the lay press of scientific theories constituting a form of advertisement. Dr. Schenk, it will be remembered, published a saccharine theory of sex production and made a little noise in the newspaper world. He had been director of the Embryological Institute for twenty-six years.

For the Study of Cancer.—Mrs. Caroline Brewer Croft, a Bostonian who died abroad two years ago, willed to her family physicians, Dr. Henry K. Oliver and Dr. J. Collins Warren, $100,000 for the scientific study of the etiology of cancer, and made the provision that Harvard receive the amount in case these gentlemen should not care to undertake it. Owing to the slowness of the English courts the legacy came to light only a few months ago. The primary purpose of the gift seems to be to enable medical science to discover the origin of cancer, since it was stated in the will that if the origin of cancer should be determined the income from the fund—which alone is to be used in either case—is to be applied toward the discovery of the sources and nature of other little understood diseases. The work is now being organized under the supervision of the surgical department of the Harvard Medical School and will be carried on in connection with other funds for such purposes. Drs. Oliver and Warren will naturally be prominently identified with the work. The principal appointee will be Dr. E. H. Nichols, who will go abroad for the purpose of studying foreign methods.

The Craig Colony for Epileptics.—A board of consulting physicians and surgeons has been constituted as follows: *Neurologists.*—Dr. M. Allen Starr and Dr. George W. Jacoby, of New York, Dr. Henry Hun, of Albany, and Dr. James W. Putnam, of Buffalo. *Surgeons.*—Dr. Charles McBurney, of New York, Dr. Roswell Park, of Buffalo, and Dr. John W. Whitbeck, of Rochester. *Physicians.*—Dr. Charles E. Jones (deceased), of Albany, Dr. Charles Cary, of Buffalo, and Dr. William S. Ely, of Rochester. *Orthopædic Surgeons.*—Dr. Henry Ling Taylor, of New York, and Dr. Louis A. Weigel, of Rochester. *Ophthalmologists.*—Dr. Lucien Howe, of Buffalo, Dr. Wheelock Rider, of Rochester, and Dr. George M. Gould, of Westfield. *Gynecologist.*—Dr. Matthew D. Mann, of Buffalo. *Pathologist.*—Dr. Ira Van Gieson, of New York. *Bacteriologist.*—Dr. Harlow H. Brooks, of New York. *Psychologist.*—Dr. Boris *gist.*—Dr. Harlon H. Brooks, of New York. *Psychologist.*—Dr. Boris Sidis, of New York. *Pathological Chemist.*—Dr. Chrirtian A. Herter, of New York. *Dentist.*—Dr. Charles J. Mills of Mount Morris.

THE DEATH OF DR. CHARLES E. JONES.—At a meeting of the Board of Managers of Craig Colony, held at Sonyea, N. Y., January 9, 1900, the following note was recorded in the minutes: The Board of Managers of the Craig Colony record with genuine sorrow the death of one of their number, Dr. Charles E. Jones, of Albany, N. Y., who died in that city, December 1, 1899. He was a man who had won a high place as a skillful and faithful physician, a man of upright dealings always, and a man who was regarded with affectionate consideration by patients and friends alike. He was the late Governor Flower's family physician, and upon signing the bill creating the Craig Colony, the Governor appointed Dr. Jones a member of the Board of Managers, which position he held from the founding of the Colony to the day of his death. He took the deepest interest in this charity and greatly aided its development by his earnest zeal and broad-minded consideration of all matters relating to it. We feel his death to be a public loss which this Board especially deplores.

Signed for the Board of Managers of Craig Colony,
FREDERICK PETERSON, *President.*
H. E. BROWN, *Secretary.*

RECENT MUNICIPAL MEDICAL APPOINTMENTS.—The Mayor of the City of Albany has again honored the Albany Medical College by appointing Dr. Joseph D. Craig, Adjunct Professor of Anatomy, the Health Officer. Dr. Craig succeeds Dr. Theodore Bailey. Dr. William G. Lewi was appointed City Physician and Dr. Edward G. Cox, Police Surgeon. Commissioner of Public Safety Ham has appointed the following as health physicians: Drs. M. D. Stevenson, Wilfred S. Hale, Frederick W. Guyer, Irving Goewey and Robert H. Tedford. Dr. Christian G. Hacker has been appointed Physician to the Fire Department, in the place of Dr. Harry S. Pearse, resigned.

PERSONAL.—Dr. ROBERT L. ELLITHORP (A. M. C. '97), has been reappointed Health Officer of Johnstown.

—Dr. ANDREW RONAN (A. M. C. '97), who some time ago was appointed in the Surgeon General's office at Washington, has been assigned to duty with the signal corps for duty in Manila.

—Dr. GEORGE E. GORHAM had been appointed by Governor Roosevelt a member of the Board of Managers of the Craig Colony, *vice* Dr. Charles E. Jones, deceased.

Book Reviews

The Nervous System and Its Constituent Neurones. Designed for the use of Practitioners of Medicine and of Students of Medicine and Psychology. By LEWELLYS F. BARKER, M. B., Tor., Associate Professor of Anatomy in the Johns Hopkins University, and Assistant Resident Pathologist to the Johns Hopkins Hospital. With two colored plates and six hundred and seventy-six illustrations in the text. New York: D. Appleton & Company, 1899.

Readers of the *New York Medical Journal* will recall the series of articles begun by the author in 1897, in which the newer investigations into the anatomy and physiology of the nervous system were summarized. The rapid increase in neurological literature soon prevented limitation of the subject to the medical journal, and the task has been completed in the present volume. The enormous amount of work expended upon the neurone concept may be appreciated from a glance at this elaborate octavo· of over eleven hundred pages. The subject is considered under six sections: the History of the Development of the Neurone Concept; the External Morphology of Neurones; the Internal Morphology of Neurones; the Histogenetic Relations of the Neurones; the Neurone as the Unit in Physiological and Pathological Processes; the Grouping and Chaining together of Neurones in a Complex Nervous System like that of Man and Mammals.

The term *neurone* is used in the widest sense to mean *a cell belonging to the nervous system with all its parts*, and Dr. Barker's book is consequently to be regarded as a histological study of the architecture of the nervous system. It will thus appeal especially to laboratory workers and investigators, for whom this vast fund of information heretofore has not been collated.

Section I reviews the studies of Deiters, von Gerlach, Golgi, His, Forel, Kölliker, Ramón y Cajal, von Gehuchten, Retzius, von Lenhossek Marchi, Nissl and others. In Section II are discussed the external form of the cell body and of the dendrites; the external form of the axis-cylinder processes and the collaterals, side fibrils, and inter-neuronal substances. Section III treats of the interior morphology of neurones, in which is fully discussed cellular structures as revealed by Nissl's method. Section IV includes consideration of the origin of the nervous system in embryo and the development of the neurones. Section V deals with the function of the neurone, and its conditions in various physiological and pathological states, as, e. g.,Wallerian degeneration and regeneration, in which the author refers especially to the probable participation of the cells as well as the nerve fibre; the direction of conduction in the neurone, which is not, according to the author, invariably cellulipetal in the dendrite and cellulifugal in the axone. He further asserts in respect of sensory conduction, that though embryologically a dendrite, the peripheral sensory fibre is in the adult histologically an axone, and the passages of impulses from the periphery to the centres must be taken as an example of centripetal conduction in ·an axone. This section also includes a study of the effects of poison and traumatism upon the histological conditions of the neurone. Section VI, çomprising about seven hundred pages, is an architectural synopsis of the nervous system, and five classes of neurones are described and traced as far as investigation has been able to follow them. These consist of (1) neurones connecting the sense organs of the body with the central nervous system; (2) neurones within the central nervous system connecting the end stations of the axones of the peripheral centripetal neurones with other portions of the central nervous system, and neurones which in turn connect the end stations of the latter with still higher portions of the central system; (3) neurones connecting the central nervous system with the voluntary muscles of the body; (4) neurones within the central nervous system which enter into conduction relation with the lower motor neurones and throw the latter under the influence of other centres; and (5) projection, commissural, and association neurones of the telencephalon. The nomenclature employed throughout the book is almost exclusively that of the BNA.

As a painstaking study of an extremely complicated and difficult subject the book is entitled to unstinted praise. The efforts of the author have been ably seconded by the publishers who have spared no pains to reach perfection in letter-press and illustration. In its mechanical features the book is of unusual excellence.

Current Medical Literature

SURGERY

Edited by A. Vander Veer, M. D.

Do Gonococci Occur upon the Mucous Membrane of the Genital Organs of Women without Clinical Symptoms of Gonorrhœa?—By HERRMAN SCHILLES. *Berl. klin. Woch., October* 9, 1899. Neisser in 1896 made the statement that gonococci can be present in the female genitalia without the clinical symptoms of gonorrhœa, and thus a diagnosis can only be made by microscopical examination. In a series of papers published by the writer and Dr. Broese in 1898, they stated that they had never found the gonococci present in the female genitalia without clinical symptoms of gonorrhœa. In the present article the writer reports the results of examinations of 300 cases taken at random and without any previous knowledge of the clinical history. In none of these cases was he able to find the gonococci without clinical symptoms. The writer does not believe that the gonococci can live in a mucous membrane without causing an inflammation of the same. The grade of inflammation often varies, and a careful examination must often be made to detect it, but it can always be found. The writer states that his view is shared by Sanger, Broese and Kroenig.

Uncommon Uses of Pilocarpin.—Dr. HARNSBERGER (Catlett, Va.) discusses this topic in the issue for *August* 26 of the *Philadelphia Medical Journal;* in substantiation of a part of his thesis, he reports three cases in which the exhibition of pilocarpin hydrochlorat, in cases of orchitis, effected gratifying relief; two were cases of gonorrhœal orchitis, in men, the third of the traumatic variety, in a dog. He says these cases should suffice to direct attention to pilocarpin as a remedy worthy of trial in inflammation of the testicle and epididymis, from whatever cause. He further used it in cases of cholelithiasis, with especial reference to the hepatic colic; the remedy is best administered subcutaneously. Pilocarpin is likewise remedial in cases of hiccough, when firm pressure upon the base of the tongue fails to relieve. Also in arthrogryposis; the author recommends it, combined with acetanilid and codein in intestinal stricture and obstruction. "Perhaps the easiest and quickest way to remove ranula is by means of 1-6 grain doses of pilocarpin hypodermatically. Safrantini reports one case."

Sexual Hygiene.—HOERSCHELMANN'S contribution to a symposium upon sexual hygiene held at the meeting of the German Medical Society in May, 1899, is given in the *St. Petersburger medicinische Wochenschrift* of 5 *October,* 1899. Hoerschelmann discussed the relation of the physician to the patient as the adviser of the latter, and his conclusions are summarized as follows:

1. It has not been proved, and from the medical standpoint it is not established, that sexual continence is injurious to the health of a physically and mentally well young man or woman.
2. Sexual continence under normal conditions does not induce the development of onanism or masturbation.
3. From the medical standpoint it is not justifiable to advise a mentally and bodily healthy young man for the preservation of his health to practice illegitimate cohabitation, nor is such advice allowable under any conditions.

Circulatory Disturbances in the Brain Following Ligation of One Internal Jugular Vein.—By Dr. E. KUMMER. (*Revue de Chirurgie, April,* 1899). The writer reports a case of cysto-adenoma of the inferior maxilla in the removal of which it was necessary to ligate the external carotid artery and the internal jugular vein.

For three or four hours after the operation, the patient's condition seemed good, the patient appearing to be in deep sleep. Suddenly almost five hours after the operation the pulse became bad and patient died, without having regained consciousness since operation. At autopsy the veins of the pia-mater were markedly congested. No increase in the tension of the cerebro-spinal fluid. Near the middle of each frontal lobe there was a diffuse reddish area 2 or 3 c. m. in diameter. This reddish discoloration extended through the gray matter and into the white matter. There was a small quantity of reddish fluid in the lateral ventricles, quite a marked quantity in the third ventricle, and less in the fourth ventricle. Nothing else abnormal in the brain and rest of the body.

In explaining the cause of death, the writer thinks intoxication from chloroform, morphine or the antiseptics can be excluded. He thinks that ligation of the internal jugular vein can produce circulatory disturbances and can be followed by cerebral paralyses. Rohrbach has reported 91 cases of ligation of the internal jugular vein and in only one case could death be attributed to a disturbance of cerebral circulation. In this case death occurred seven days after operation and at autopsy two areas of softening were found in the frontal lobes corresponding in size and situation to those described by the writer in his case. There were also hemorrhagic areas in the dura and pia-mater. The intact jugular vein was found to be of much smaller calibre than normal and death seemed to be due to cerebral stasis. It must also be borne in mind that the surgical dressing may compress the internal jugular vein on the sound side and thus assist cerebral stasis. The writer calls attention to the fact that after ligation of one carotid there is an initial period of anæmia which is followed by pronounced venous stasis. Either lateral ligation or vascular suture is the method to avoid the circulatory disturbances of the brain following ligation of one internal jugular vein.

Influenza and Appendicitis.—GAGNIERE in the *Gazette Des Hopitaux* for the 7th of *November* 1899, writes concerning his experience with appendicitis in a recent influenza epidemic. The epidemic lasted from the end of December to the end of May. During that time Gagniere observed about 900 cases of influenza of which number 1.3 per cent. showed the complication of appendicitis. The author gives the history of the eleven cases which he observed, two of which were fatal. Most of these cases began as the ordinary attack of influenza and after several days showed signs of appendicitis. In two instances a fatal issue resulted from the appendicitis. The author states that the cases of appendicitis were all of them contemporaneous with the period covered by the epidemic of grippe, that before the epidemic and since its disappearance he has not observed a single case of appendicitis in spite of the lapse of time and the fact that he has since examined about 1,000 patients, and that in most of the patients the coexistence of grippe and appendicitis was very sharply defined.

Muscular Tuberculosis.—LEJARS in the *Revue de la Tuberculose* for *October* 1899, writes on this subject. He states that the history of primary tuberculosis of muscle only dates back about 10 years, and that there are not a great many cases on record. Lejars relates the history of a man of 36 years of age, who entered hospital complaining of swellings in one thigh. The illness had begun with weakness and stiffness of the limb, and then gradually multiple tumor nodules had formed in the lower part of the thigh above the knee. The man's general health was good; there were no signs of phthisis and the knee joint was uninvolved. On entrance into the hospital the skin about the knee was reddened, and beneath it in the muscle were numerous nodules, sharply localized, and varying in size from a pea to an olive. Operation showed these to be hard or caseous tubercle nodules which infiltrated the muscle substance, and even the tendon. No involvement of the inguinal glands was present. Histological examination showed typical tuberculosis both in the intermuscular tissue and in the muscles themselves.

Pilliet who examined the tissue believed that the tubercles originated in the intermuscular tissue, and only secondarily involved the muscle. The thigh muscles according to Lejars are the favorite sites for primary muscle tuberculosis.

Intra-Muscular Osteoma of Traumatic Origin.—PAUL BOUDIN in the *Gazette des Hopitaux* for *November* 2 and 4, 1899, gives a very complete review of this subject. He refers, he says, to osteomata developing within muscles after injury and not to traumatic exostoses or hyperostoses. These cases were first described by Mascarel in 1840, but later on Billroth, Virchow and others published cases. The affection is relatively rare. It occurs most frequently in young people between 20 and 30, nearly always in males and usually in soldiers. Cavalry men are mostly affected, the adductor thigh muscle being the favorite site of growth. The great etiological factor is trauma. Three main theories are advanced to account for formation of the bone after the trauma.

The hematic theory holds that the hematoma is the original change, and that this becomes first cartilaginous and then osseous. This theory has been abandoned as it is contradictory to the principles of osteogenesis.

The myositis ossificans theory is that the first change is a myositis and that the inflammatory products result in the formation of bone. This theory has been disproved experimentally. Finally we have the periosteal theory which holds that with the muscular injury there is also periosteal injury with the transplantation of small particles of periosteum into the injured muscle where it goes on to bone formation. This view has been supported by experimental work and seems the most probable of the three. The osteomata develop almost exclusively in the muscles of the limbs, particularly in the lower limbs, as these are especially liable to injury. In the arms they appear in the brachialis and biceps and are called by the Germans "Exercier Knocken." They are always in connection with bones and are never found in the muscles over the viscera. They may be single or multiple, but are usually single. They vary in diameter from 4 or 5 to 19 or 20 centimeters, and their form is usually irregular. Histologically they consist of islands of true bone surrounded by inflamed muscle, from which they may be separated by granulation tissue. Very rarely islands of cartilage are present. Clinically the cases show first a history of trauma, which is generally associated with loss of function, then a hematoma forms at the site of injury, and finally a bony tumor which may appear after 15 days, but usually does not form for one or two months. Pain is present at the time of injury and may persist all through the disease. Complications, particularly suppuration, are rare. The prognosis is benign and the treatment is essentially surgical and operative.

MEDICINE

Edited by Samuel B. Ward, M. D.

Koplik's Spots in Measles.— By J. WIDOWITZ, in *Gratz*. (*Wien. klin. Woch., No.* 37, *September* 14, 1899.)

The writer publishes the results of his observations of Koplik's sign as evidenced in a recent epidemic of measles in Gratz.

He calls attention to the fact that Flindt and Siegfried Weiss had described this condition in 1880.

Filatow, in 1895, described a slight patchy degeneration of the epithelium of the mucosa of the lips and cheeks, which appears before the other prodromal symptoms. Frequently a vesicle is observed, situated at the middle of the red patch on the mucosa, and when this is ruptured the slight necrosis gives rise to the grayish-white appearance. In 158 cases of measles observed by the writer, Koplik's sign was present in 140 and absent in 18.

In 115 of the 140 cases there were also other signs and symptoms of measles. In 25 cases Koplik's sign was of great assistance, because there were no other definite signs or symptoms of the approaching measles, and in all these cases measles subsequently developed. The failure to observe the sign in the 18 cases may have been due to its transitory character.

In an epidemic of rötheln, in 135 cases, the writer observed Koplik's sign in 10 cases, and these were cases in which the existence of measles was excluded. The writer concludes that the so-called Koplik's spots occur in most cases of measles, and in many cases they occur at the same time as the other prodromal symptoms. They are occasionally observed in rötheln and other diseases, as catarrh of the respiratory mucous membranes and follicular angina. They are a very valuable, but not an absolutely certain, sign of approaching measles. It is, therefore, not possible, from Koplik's spots alone, to conclude, without reference to the general condition of the patient, that measles is developing.

Diagnosis of Uremia and Concerning Albuminuria in Diabetes Mellitus.—By Dr. Ludwig Herzog. (*Deut. med. Woch., August* 3 *and* 10, 1899.)

The writer first describes two cases of hemiplegia, in which, at autopsy, contracted kidneys were found. In the one case brain examination was negative, while, in the other, there was an apoplectic condition.

He calls especial attention to the difficulties of diagnosis of uremia. The presence of various forms of paralysis used to be considered the chief diagnostic point against uremia. To-day, however, the view is quite different. Senator divides the uremia paralyses into three groups: 1. Paralysis of the external muscles of the eyes. 2. Hemiplegia. 3. Bulbar paralysis. Ulrich Rose distinguished four classes of uremic cerebral paralysis: 1. Pure uremia, without demonstrable changes in the brain. 2. Uremia, with capillary apoplexy, visible only with the microscope. 3. Nephritic apoplexy, with many small foci. 4. Extensive nephritic cerebral hemorrhage.

Aphasia is a well-recognized condition in uremia, and it may occur without any other of the symptoms of uremia, and without a demonstrable lesion, and is of a transitory character. As a result of uremia, there may be convulsive seizures resembling Jacksonian epilepsy. They may, however, be chronic in character, and usually involve the muscles of the extremeties, and may be the only symptoms of uremia. Uremic amaurosis is a well-recognized condition, usually transitory. Pupil reaction is usually retained. As to the pathoganicity of uremia, Traube's theory is not so generally held to-day. The chemical theory is the one most generally accepted, and of this there are three groups: 1st. Those who believe uremia to be due to an excess of potassium salts. 2d. Those who believe it to be due to a decrease in the alkalinity of the blood. 3d. Those who believe uremia to be due to organic urinary poisons, i. e., Bouchard's toxic theory.

With regard to the frequency of the presence of both sugar and albumen in the urine, statistics vary greatly.

Pollatschek investigated the urine in 1,187 cases of diabetes mellitus and found albumen in 437, or 36.7 per cent.

R. Schmitz investigated the urine in 1,200 cases of diabetes mellitus and found albumen in 824, or 68.7 per cent.

Grube investigated the urine in 473 cases of diabetes mellitus and found albumen in 181, or 38.3 per cent.

Casts are also found very frequently in diabetic urine. The albuminuria in diabetes is, however, not always an indication of severe nephritis. Numerous observers have described arears of necrosis in the renal epithelium, associated with diabetes, but there is nothing specific about this degeneration.

Grube distinguishes five groups of diabetic albuminuria:

1. The albuminuria in severe cases of diabetes, especially those ending in coma.
2. The albuminuria due to heart weakness.
3. The albuminuria of old age, due to arterio-sclerotic changes in the kidney.
4. Functional albuminuria, due to the secretion of diabetic urine.
5. The albuminuria of diabetics, due to chronic nephritis.

Some observers believe that the absolute meat diet often used in diabetes is a cause of albuminuria. The individual with kidney changes in diabetes is thus exposed to the dangers of both uremia and diabetic coma.

The Value of Casts in the Diagnosis and Prognosis of Nephritis.—PEHU in the *Revue de Med.* divides casts into three groups according to their origin. Transudate casts—hyaline, hæmoglobin, fibrin and erythrocyte—which owe their origin to substances contained in the blood which passes through the wall of the urinary canaliculi as a result of chronic or acute circulatory changes. Desquamatory casts—colloid, fat, amyloid and epithelial—which are formed from the desquamation of the degenerated cells of the tubules. Fermentative casts—which are produced by the productive activity of the epithelium linig of the tubules. These are the granular casts and they are characteristic for epithelial nephritis. The other forms of casts have no specific significance, even the hyaline casts found most commonly by circulatory changes. Free cells of epithelial origin are the usual accompaniments of these casts. In the acute stage of parenchymatous nephritis are numerous small casts with compact granules. In the subacute form they are very much scarcer, less covered with granules and thicker. In the chronic forms only occasional casts are present and without substance. They disappear with the albumen out of the urine in the healing process. When it passes to contraction a variable, generally slight quantity of albumen is excreted and casts are absent.

The Plague in Eastern Mongolia.—ZABOLOTNY in the *Annales de l'Institut Pasteur* for *Nov.* 1899 describes a new endemic focus of the plague in Eastern Mongolia. It is in a mountainous district, 14 or 15 days northwest travel of Pekin. The region is occupied by Chinese and Mongols living in small but densely populated villages. The Chinese who constitute the greater part of the population live in small houses of two rooms and in many of these houses from 10 to 20 people live. According to the inhabitants of this district the plague has been an annual visitor for at least 10 years. It usually appears in August or September and disappears when the cold weather comes on. The author saw clinically a small epidemic in one of the villages and he also identified the disease bacteriologically. It was noted in this epidemic that the pneumonic form of the disease was unusually prevalent. The anti-plague serum was used in 16 cases of which 4 recovered. The author describes a form of the disease which he had never seen in India, i. e., the pustular form. In this form numerous pustules appear on the surface of the body which are surrounded by a hard red zone of skin.

The author calls attention to the resemblance between the plague and a disease of rodents which also occurs in Mongolia and which is called the plague of tarabaganes. These tarabagenes are closely related to rats and he mentions the fact that individuals who eat the rodents without cooking them are attacked with the disease which resembles plague, both in its symptoms and its unusually high mortality. He thinks that there is very little doubt that this disease is the true plague and that it has probably been endemic in Mongolia for a long time.

Concerning Auto-Digestion of the Pancreas.—PFÖRRINGER in *Virchow's Archiv* for *October* 1899 discusses the subject of the agonal and post-mortem digestion of the pancreas by its own secretion. He refers to the well known work of Chiari and tabulates 100 unselected consecutive cases in which he made microscopical examination of the pancreas. Of these 100 cases 45 showed evidences of digestion necrosis. Of this number 11 showed almost complete, and the remaining 34 small necrosis. 13 of the cases were women, 32 men. The shortest time post-mortem at which the necrosis was discovered was four hours. The youngest individual showing the change was two and one-half years of age, the oldest seventy-seven years of age. The change was found both in acute diseases and after sudden death from accident as well as in chronic diseases. There was no particular distribution of the foci of necrosis which was sometimes associated with hemorrhages.

The author believes as a result of his examinations that in a large number of cases the pancreas either post-mortem or even during the death agony is able to digest itself. This digestion is more probable the nearer to normal the organ is and is more apt to take place when digestion hyperæmia of the mucous membrane of the stomach and duodenum is also found. As in artificial digestion experiments, so under natural circumstances the transformation of the pancreas zymogen into an active ferment takes a number of hours. Where the auto-digestion takes place during life it begins in the glandular tubercles and there is always reactive inflammation about the affected area. Such an intravital auto-digestion can be preceded by a fat necrosis, which necrosis allows the escape of pancreas secretion thereby leading to a wider area of auto-digestion. The author suggests the possible relation of these areas to pancreatic hemorrhage and abscess.

Lipase in Pathological Conditions.—ACHARD and CLERC in the *Gazette des Hopitaux* for *November* 23, 1899, discuss the relation of lipase, the fat saponifying ferment of the blood, in different conditions. The test is an easy one to make as the lipase can be quantitatively determined from relatively small quantities of blood serum. The authors fixed the normal saponifying power of the lipase at from 15 to 20. Above 20 they considered that a condition of hyperlipasis was present and below 15 a condition of hypolipasis.

Hyperlipasis was present in seven cases of diabetes and in one obese and one myxœdematous individual. In the diabetic patients, however, the excess of lipase disappeared when cachexia became pronounced.

Hypolipasis was found in almost all instances in severe and generally fatal diseases. These were sometimes acute, as pneumonia, rheumatism and septicæmia, and sometimes chronic, as tuberculosis, new growths and brights disease. The authors have been unable to satisfactorily explain the variations in the activity of the lipase. They state that their experience leads them to believe that extreme diminution of the substance has a certain prognostic value, and must be regarded as a sign of grave omen.

The Use of Phloridzin in Determining Renal Insufficiency.—DELAMARE in the *Gazette des Hopitaux, October* 28, 1899, reviews very fully the physiological action of pholoridzin, and after noting the well known fact that it produces a renal glycosuria, he cites the number of cases in which he used it in order to determine the presence or absence of renal insufficiency. His method consists of injecting a dose of 5 milligrammes subcutaneously. The patient empties the bladder at the time of injection. The urine is collected half an hour after the injection, one hour after it, and after that every hour for seven or eight hours. The author finds that as a rule, in healthy people the sugar appears in the urine at the end of half an hour or an hour and remains present for from two to four hours. The amount excreted varies from 50 centigrammes to 2½ grammes. The author tested the method upon a large number of cases and in 55 found either diminution or an absence of glycosuria. Several of these cases subsequently came to autopsy. The changes in the glucose excretion were not always alike. In some cases there was merely a prolongation of the time during which the glucose was excreted, and in other cases there was no prolongation of the time, but an unusual amount of glucose was excreted. As a result of his experiments the author states that this method of determining changes in the kidneys is of value combined with other well known methods as the estimation of albumin and the methylene blue method. He regards the phloridzin method as only determining changes in function, and not necessarily denoting changes in structures, even when positive. In his autopsies he found that the prominent disease contained in the kidneys was in connection with the cells lining the tubules and he thinks that it is these cells which probably have to do with the glucose formation.

OBSTETRICS, GYNÆCOLOGY AND PÆDIATRICS

Edited by James P. Boyd, M. D.

Surgical Treatment of Fibromyoma.— BALDY in the *American Journal of Obstetrics, December,* 1899, gives a report on this subject read at the meeting of the International Gynecological and Obstetrical Congress held at Amsterdam, August 8–12, 1899: "Hysterectomy may be performed by either the vaginal or abdominal route; it is complete or incomplete as the operator may prefer. Performed by way of the vagina it is always complete—a panhysterectomy. Performed by way of the abdominal incision the operation is completely as a panhysterectomy or as an amputation at the cervical neck. Ligature of the stump, the most common and only thoroughly tested method of treatment. Amputation at the cervical neck after the method of the old Serre-Neud operation has fallen into disrepute. Universally ligatures are applied to the vessels, and after suturing the peritoneum over the cervical stump it is dropped back into the pelvis and drainage dispensed with. This is the best method because it is applicable to all cases ;it makes a shorter operation; it requires less manipulation; it opens up less connective tissue space and consequently makes less traumatism. There is less liability to septic infection, as the opening of the cervical canal is infinitely smaller and consequently more easily controlled than is the opening into the vagina when the cervix is removed. During the manipulation the fingers enter neither the cervical canal nor the vagina. The anatomical relations of the vaginal vault are kept intact and the vagina is in no degree foreshortened. There is better opportunity to prevent sagging of the vaginal vault in closing the wounds than where the cervix has been removed. On the other hand no possible good can be obtained by the removal of the cervix.

Hysterectomy is the operation of choice in fibrous tumors of the uterus. Myomectomy is only indicated when special reasons for so doing exist. The whole question of the propriety of surgical interference with fibrous tumors of the uterus rests largely on the consideration of each case. The disease is essentially a benign one. The question to be decided is the one of health and future possibilities. That of health is largely determined by the pain, hemorrhage, rapidly of growth, size, pressure symptoms, recurring attacks of peritonitis, mental condition, expediency. As to the future of fibroid disease of the pelvis, it is well established that:—there is no natural cure other than the menopause; there is no medical cure; the menopause will relieve a cartain proportion of cases only; in others, at the time of the menopause the symptoms are frequently redoubled; in still others, the establishment of the menopause is indefinitely postponed; at some time or other during their existence the large majority of these cases will give rise to symptoms of sufficient gravity to demand surgical interference."

Cysts of the Ovary Complicating Labor.—Two cases of this rather rare condition were reported in *Obstetrics, December,* 1899, by Drs. PETERSON and LEWIS. The case described by the latter was a dermoid cyst which persisted in blocking the passage of the fœtal head. Under chloroform the author succeeded in pushing up the tumor until the head became firmly engaged. The presentation was L. O. P. but by means of the Tarnier forceps, it rotated fairly easily into the anterior position and was delivered after a left sided episiotomy. The cyst was removed some time later. Dr. Peterson's case on vaginal examination revealed a large mass in Douglas' cul-de-sac resembling in size, shape and contour a fœtal head. The cervix was pushed forward and upward above the pubes, the os was dilated about half an inch. The child's head could be easily felt through the abdominal wall above the pubes. Fœtal head tones were not heard. Fœtal movements had ceased two weeks previonsly. An incision was made in the vagina, the cyst punctured and about a quart of thin serous fluid was evacuated. The wound was closed with silk wormgut sutures. The cervix now resumed its normal position. Pains began about two hours after operation and seven hours later she was delivered of a still-born macerated fœtus.

The Influence of Prolonged Standing in the Production of Women's Diseases.—NAIRNE in the *British Medical Journal, September* 2, 1899 (*American Gynecological and Obstetrical Journal, December,* 1899), says that many years ago his attention was called to this subject and that during the past thirteen years as surgeon to two large hospitals for women in Glasgow, he has been able to ascertain the relation of occupation to disease in a vast number of cases. He was convinced that where women stood for many hours each day, the hyperæmia of the uterus and ovaries at the menstrual period, and the influence of gravity upon the temporarily enlarged organs, led not only to prolapsus uteri, but to other uterine and ovarian derangements. Not only so, but the veins became varicosed and, after a time, various forms of neuritis manifested themselves, due in part, perhaps, to the continuous contraction of dorsal muscles. Anæmia, arising from lack of outdoor exercise and to the long continued strain of standing, leading to deterioration of the blood cells, sets in. Special organs lose their tone, suffer from passive congestion, which passes into acute inflammation in time. While only a comparatively small number of shop girls break down at early age, 40 per cent. of married women, who have been shop girls, come under medical attention for pelvic troubles under thirty years of age. The girls are broken down and wearied, but keep at their work by force of circumstances. After marriage the former conditions tell on them, and marriage instead of giving them rest, adds fresh congestion to organs already more or less diseased. The same statistics apply to girls and women working in factories where they have to stand all day.

Suprapubic Subperitoneal Total Hysterectomy. — JABOULAY (*Lyon Med., September* 1899) aims in his operation to protect the peritoneal cavity and intestines from all the manipulations of ablation of the uterus, whether fibromatous or cancerous, and to secure complete hæmostosis. The operation comprises three stages:

1. Sub-umbilical median incision, down to, but not through, the peritoneum, extending as far as the pubes.

2. The operator thrusts his hand in front of the bladder under the peritoneum, stopping and pushing back the latter so as to reach the broad ligament, the ureter first identified, then the uterine artery, which is tied. Continuing always close to the peritoneum one reaches the ovary and tube, and the anastomosis of the utero-ovarian and uterine arteries is sought and ligated. Should the round ligament be in the way (though this had not occurred in the writer's experience) it could be easily cut subperitoneally and freed from its connection with the inguinal canal. The same manæuvres are repeated from the opposite side. To separate the uterus from the bladder, it is necessary to penetrate into the interior of the broad ligament above the umbilical artery and push the latter downwards and forwards. The finger profits by the denudation of the broad ligament to reach downwards to the vagina and with the scissors one opens the cul-de-sac, liberating the cervix wholly or in part from its attachments. Sometimes the writer has proceeded differently; after conflicting with the hæmostasis of the broad ligament, the vagina was opened with scissors and the cervix seized with forceps; and after completely reversing the uterus with the cervix upwards, he performed the denudation and hæmostasis of the opposite broad ligament, then ligation and excision of the annexa.

3. The dissection of the broad ligament having been accomplished, and the peritoneum being still intact, the cervix is seized with uterine forceps, and drawn away from the broad ligament, forward and upward to the side where the operator stands, or upon the median line; the rest of the uterus follows, detaching itself from its surroundings and vessels, until finally it remains in intimate contact only with the annexa (which are tied and cut) and with the peritoneum as its fundus. The denudation is continued until one has the entire uterus with a little of its serous covering. Sometimes the serous coat tears transversely, opening an escape for the small intestine, but they are easily held in place. In case of omental or other adhesions it would be well to attack them at the end, after a deliberate opening of the pelvic peritoneum; after breaking them up the cavity remains exposed to infection only during the extirpation of the uterus. The transverse peritoneal opening is sutured and the subserous anfractuosity has a sufficiently free drainage through the vagina to protect the overlying peritoneum. The author has employed the same proceeding in cases which demanded the removal of diseased annexa, as well as that of the uterus; and in these cases the preliminary mobilization of the uterus and hæmostasis of the pelvis make the necessary intra-peritoneal manœuvres very simple. This method corresponds to the embryological origin of the uterus, taking into account the fact that it is an organ of subserous development.

The Presence of a Living Fœtus as a Cause of Eclampsia.—VAN DER HOREN in his thesis on "*The Etiology of Eclampsia*" published in 1896, was one of the first to attribute the cause of eclampsia to the presence of the living fœtus in the uterus. In *L'Obstetrique*, *September*, 1899, he again reviews the subject. One of the two conditions must prevail: 1st, during the gestation it is the secretory organs which are altered in their anatomical and functional state, and as a result of these lesions they are no longer able to perform all their functions; or, 2d, the secretory organs are at first unaltered but the quantity of work which is to be done, the quantity of toxins which must be eliminated is increased during gestation. Many authors agree with the first proposition, i. e., M. Riviere, who holds that the blood of the puerperal woman is hydræmic; that the heart is hypertrophied; that the nervous system is more irritable; that the liver is altered; that the functions of the lungs are hindered by the elevated position of the diaphragm and by the hydræmia; that there are digestive troubles and finally that the kidneys are affected and that from their incapacity to accomplish the surplus work which is imposed upon them by the insufficiency of the other organs named. But Schroeder, Teblin, Reine and the author have demonstrated that the blood does not become hydræmic in the puerperal woman; M. Schmorl and Lohlein have demonstrated that during pregnancy the dimensions of the heart are not changed. As for the changes in the liver, which Riviere mentions, they were not as a rule demonstrated during pregnancy. In normal pregnancy we find only more or less cyanosis or dyspnœa indicative of respiratory trouble. There only remain then the functions of the intestines and of the nervous system which are often altered. But these are seen in non-pregnant women and moreover are never a cause of eclampsia. It is probable that during pregnancy the kidneys, normal before pregnancy, do not become diseased by any other cause than the toxicity of the blood and once the lesion is established (nephritis gravidarum) the toxicity is still increased. If the eclampsia really is due to inability of the secretory organs to perform their normal functions, the writer asks why it is that eclampsia is not more frequently observed in debilitated women, and why should the convulsions cease upon the death or birth of the child when the maternal organs are still diseased and incapable of eliminating all the toxines? One must admit that there is an increased toxicity due to the elimination of the products of combustion in the fœtus where the nutritive changes are greatest. This is proved by the greater temperature of the fœtus and by the fact that the greatest number of cases occur at a period when the growth of the fœtus is most rapid. The toxic products then are eliminated either through the placenta or by absorption from the liquor amnii and must increase the work of the maternal organs. This toxæmia causes a parenchymatous degeneration of the secretory organs and as a result the toxæmia is increased. This toxæmia also produces the same lesions in the fœtus where the toxic condition of the blood is found to be greater than that of the mother—another proof of the fœtal origin of eclampsia. This theory explains why eclampsia is so frequent in twin pregnancies and why the symptoms so often cease after the death of the fœtus without the mother being delivered. When eclampsia occurs after the birth of a child, although the mother is relieved of the source of the toxines, the lesions of the maternal organs still remain and cause an insufficient elimination of toxines and a consequent augmentation gives rise to the eclampsia. The living child of an eclamptic woman usually shows symptoms of intoxication although it often passes by unobserved.

PSYCHIATRY

Edited by G. Alder Blumer, M. D.

A Degenerative Form of Syphilitic Insanity.—G. A. WELSH (*Journal of Mental Science, April,* 1899) reports conclusions arrived at after the observation of sixteen cases of syphilitic insanity. This malady is a degenerative condition of the nervous system, primarily attacking the nerve cells. It closely resembles general paralysis in its clinical manifestations. The progress, however, shows that in some cases the disease is curable; in others, which do not permit of cure, alleviation, in the form of remissions, can be obtained by antisyphilitic treatment. The cases which progress follow closely the progressive degeneration known as general paralysis. The writer discusses the probable effect of the syphilitic poison upon the nerve cells, and believes that there are two stages of development; the first a slow degeneration, and the second, an active change. The resulting symptoms are distinctive. The disease is one which admits definition, and may be defined as a disorder of the nervous system, characterized by mental symptoms with motor accompaniments. In every case there are motor accompaniments, and the diagnosis cannot be made without them. The mental condition is exaltation with excitement, and might well be called syphilitic mania. The premonitory stage is short in duration, and in the writer's cases has varied from 10 to 21 days. It is marked by a change in manner, irritability, eccentric acts, restlessness and insomnia. It varies greatly in the intensity of its manifestation, and in cases is so slight that it passes without attracting attention. The stage of invasion is acute, and is characterized by mental exaltation with delusions of grandeur, and in some cases, in addition, with delusions of suspicion and persecution. Some authorities claim a distinction between the grandiose delusions of syphilitic disease and those of general paralysis, but the writer's cases did not permit this differentiation. The other symptoms of special note are sleeplessness, mental enfeeblement, variability and alternation of the mental condition and the occurrence of remissions. Great importance is placed upon the motor signs. These are principally local or general paresis, paretic incoordination, as a rule limited to the lower extremities, absence or diminution of the knee and other tendon reflexes, muscular tremors, and defective articulation of speech, and congestive attacks.

The points of diagnosis are the acuteness of the attack, the degree of mental enfeeblement, the variability of the mental condition, the character of the motor phenomena, with the absence of sensory phenomena and pupillary changes, and the deciding test of vigorous antisyphilitic treatment. The prognosis is grave as the outcome is doubtful, and depending upon the results of antisyphilitic treatment.

The Epileptic Impulse to Wander. (Poriomania.) — JUL. DONATH in the *Arch f. Psychiatrie,* xxxii, 2, discusses a form of mental epilepsy, which he calls *der epileptische Wandertriebe,* or poriomania. Loss of consciousness is not necessary to epilepsy. In Jacksonian epilepsy, which is a rudiment of general epilepsy, consciousness may be entirely retained, and in various manifestations of general epilepsy numerous psychical equivalents are now recognized in which disturbance of consciousness and amnesia are pushed more and more to the background and finally disappear, so that although disturbance of consciousness is a frequent and important symptom, it is not an essential sign of the epileptic attack, and need not be present for the differentiation of epilepsy. The epileptic attack may consequently be defined as every form and every source of morbid irritation of the cortex which begins suddenly, returns periodically, runs a typical course and quickly ceases. The presence or absence of consciousness with or without amnesia depends entirely upon the intensity and extent of the cortical irritation. The writer describes fully three cases whose wanderings during the epileptic seizure covered a great extent of territory. The impulse to wander is the form of psychical equivalent and may often be preceeded for twenty-four hours by various bodily and mental disturbances. These are attended by an uncomfortable and restless feeling which may lead to thoughts of or attempts at suicide, but yield to contentment and relief when the wandering begins. Donath consequently regards poriomania as a psychical equivalent of special kind which differs from the usual, in that perversion of consciousness either is wanting entirely or being transient and insignificant attracts very little attention.

Epilepsy Terminating in General Paralysis.—WATTENBERG (*Archiv f. Psych. u. Nervenkrankh., Vol.* 32, *Part* 3) describes a case of genuine epilepsy terminating in general paralysis. The occurrence of epileptiform seizures and similar attacks is well known in general paralysis, and the literature shows a few cases in which a strong suggestion of epilepsy has been given by preceding symptoms, but with a liberal interpretation of the phenomena of general paralysis and the recognition of a longer duration of the disease than the limit of two years which was formerly accepted, these occurrences may be taken as the prodromal manifestations. The author's case showed pure epileptic seizures at the age of eight, which increased in intensity until his admission to a hospital in a state of epileptic status at the age of thirty-three. Four years later he was again admitted into a general hospital with the diagnosis of "Psychopathia epileptica," two years later again, and this time was transferred to a hospital for the insane. Here he developed expansive ideas and other mental and physical symptoms characteristeric of general paralysis, of which he died. Trauma, alcoholism and syphilis were positively excluded. The case is the first of its kind on record, and justifies the following conclusions derived by the author:

1. It is shown that genuine epilepsy, to this time regarded as an independent, well-defined psycho-neurosis, may precede general paralysis, and may terminate in the latter.

2. It is also demonstrated that general paralysis is not necessarily due to lues. but may develop entirely independently of venereal disease.

3. It is finally made evident that similar appearances both clinically and pathologically may be present in genuine epilepsy as well as in genera paralysis, and that these in susceptible individuals may be due to certain endogenous toxines.

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ALBANY

MEDICAL ANNALS

Original Communications

EDUCATION AND THE PROFESSION OF MEDICINE.*

BY PRESIDENT ANDREW V. V. RAYMOND

of Union College.

I appreciate the courtesy of the invitation which brings me before you this afternoon and am grateful for an opportunity to speak to such a representative company of physicians upon a subject which is already of interest to you because vitally connected with the future of your profession. I feel, however, like claiming at the outset your indulgence if I seem to show lack of knowledge, or at best lack of appreciation of certain practical conditions which appeal strongly to you, and modify your views upon the general subject, for you must understand that I am not a physician, and therefore naturally speak from the academic rather than the professional side. At the same time you will admit that the question before us cannot be settled without due consideration being given to the side which I represent. I shall try, however, to avoid any extreme positions and look at the question as far as possible from all sides.

The terms of the subject before us have been chosen deliberately as indicating two more or less distinct interests or aims. On the one hand education, as we shall use the word, stands for what is known as liberal culture, and, on the other hand "the Profession of Medicine" stands for technical knowledge and skill, and incidentally a means of livelihood. In making the latter interest only incidental I feel that I express your own thought, for it is the glory of your profession to put the service of humanity first, but even you cannot ignore the fact that if one would serve he must live; so that the question of getting a living is of some importance in connection with the practice of medicine. Indeed it is that more than anything else that just now complicates the relation between education and the profession of medicine; for while all admit that the profession demands the most thorough and liberal preliminary training, that training requires under present conditions so many years of study that the average young man cannot hope to become self-supporting as a physician until past the first vigor of youth. How far is this inevitable, and how far is it the result of false ideals and faulty methods of instruction? These questions define the range of the present discussion.

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*Address delivered to the Medical Society of the State of New York, January 31, 1900.

We cannot, however, discuss these questions intelligently without coming to some agreement as to the aim of education. If it is simply to make physicians and lawyers and engineers and financiers, then it will be claimed by many that the specific purpose fixes its own limitations upon the course of studies and the time that may be spent profitably in pursuing that course. It is this conception of education that finds expression in the demand for early specialization, a demand so apparently reasonable that few stop to think of all that it involves. Without pausing now to show the essential weakness, even if we assume that the theory of education is right, we ask, "Is this theory right? Is it the great aim of education to give ability in any profession or calling?" This is fundamental, and I do not hesitate to answer emphatically, "No," because a man is more than a machine fitted to do a certain kind of work. He has interests and responsibilities, capacities and sympathies, wholly separated from his professional calling, and it is the mission of education to develop his whole nature, unfolding the powers that give the widest range to life. No one will claim that purely technical instruction does this. Of necessity it limits his knowledge and cultivates but a part of his being, thereby excluding him from much of the world that belongs to him as a man. The great end of life is its own increase and the degree of life to which anyone attains is always determined by the range of his sympathies and capacities, his mental vision, his moral satisfaction. His profession or occupation, that by which he gains a livelihood or expresses his energy in some particular direction, is not the end but means to the end, like the leaves in nature which contribute to the development of the full corn in the ear. The legitimate fruitage of life is the unfolding of its own vital energies, which in man are the energies that bring him into correspondence with the large world of human interests and enjoyments. Take one, for instance, whose life issues almost wholly in business ability, who has cultivated only those faculties which belong to the world of trade. He may win fortune and the distinction which belongs to it, and the power which fortune yields, and yet without the broader interests and sympathies of the intellectual and spiritual life his world is necessarily narrow, the range of his thought, his susceptibilities, his satisfactions limited. He is a stranger among men who rejoice in large liberty of life. With all his ability to make money and with all his money he is shut out from much of their world. He is blind where they see. He is deaf where they hear. He is irresponsive where they are profoundly stirred. The same is true of the professional man whose training has been almost wholly within the lines of his profession. However distinguished he may become, however successful by professional tests, the range of his life is small. He has missed his inheritance as a man, whatever he may have gained as an engineer or chemist or physician. Intellectually and spiritually he is as partially developed, as much a cripple as is another physically whose legs are shriveled though his arms are round and strong. The principle I wish to emphasize is this, that the true theory of education comprehends the development of all the capacities and powers that belong to one as a man, bringing him into correspondence with the largest possible world. He is to be educated as a man, and because he is a man and not because he is also to be a merchant or machinist or lawyer. This, as I have said, is a fundamental truth in all discussion of educational problems. It alone justifies, and it justifies completely those studies whose end is not so much increase of technical knowledge and skill as refinement of life, the culture of sympathies and susceptibilities, and which therefore a narrow utilitarianism rejects. The weights and measures of commerce, the common standards of professional success, have no spiritual adjustments, and life is spirit.

I would not seem to imply by anything that I have said that the life of the successful tradesman or professional man is necessarily narrowed by the very conditions of success, only that it will be thus narrowed and must be thus narrowed if his preliminary training has been limited to meet these conditions, or if his conception of the good to be gained from life is confined to such success. On the other hand, if from the beginning his thought of life has been large and his training correspondingly liberal, his very success in his chosen calling contributes to the realization of his broader purpose. In this way the technical knowledge of the physician links itself with other knowledge, leads to other truth; his reputation gives him influence in other fields; his money is made to minister to his mind, his soul; his manhood, is enlarged by his work and achievements as a physician; not only are his delights multiplied, but his usefulness is increased as a citizen and a patriot. Take the single acquirement of correct and forceful speech. It may not be important for his practice—indeed there is a theory that the less a physician talks the greater will become his reputation for profound wisdom among his patients—but who cannot see the power it gives him in such a gathering as this, as a physician among physicians, or in the world at large as a man among men.

Let this suffice for our statement of the need in general of liberal culture, but there is another side of this truth which should not be overlooked. In this age, at least, such culture is demanded by the conditions of highest attainments in any specific calling or profession. There are few who will question that the broader one's intelligence the greater is his ability when his energies are applied in any one direction; but beyond this general principle modern progress has increased the range of every science, or at least the intellectual requirements. Nowhere is this more evident than in the science of medicine, which has been practically revolutionized within the last century by new discoveries and new theories. What this means in the way of larger knowledge and more thorough training is shown by the persistency with which you have demanded the lengthening of the course of professional instruction; so that to-day four years are required where but a little while ago two seemed ample, but what I would emphasize is this, that even the four years now fixed by law do not meet the need because they are devoted exclusively to purely technical studies and ignore other studies of vast importance in the training of any professional man, the studies, for instance, which are peculiarly fitted to enrich the mind and discipline the faculties. I will not say that there is no disciplinary value or no fertilizing influence in purely professional studies, but this I do say, that in these respects they do not compare with other studies which find no place in your curriculum. It will be admitted by all that what is needed for the successful prosecution of any professional course is intellectual vigor, mental grasp, ability to comprehend statements, to follow a line of reasoning, to think clearly and closely. I will venture the assertion that lack of this ability is the greatest difficulty encountered by the teachers in your medical schools, and it is not due to the natural dullness of the students, but to the absence of such preliminary training as makes a man master of his own intellectual forces, giving him the power to concentrate thought and hold his mind to a subject till it is understood. If anyone says that this ability can be acquired during the four years of professional studies I can only answer that while it can be and may be it is not at all likely that it will be, in many instances, at least to any marked degree, because that is not the specific purpose of professional studies, as it is of others. They are in their very nature advanced studies, demanding at the outset the intellectual training which I have outlined. Granting that this ability comes before the four years are over, think of all that has been lost in the meantime. Now in all this we are facing not a theory, but a condition, or the testimony of many whom I have consulted is valueless. Great as has been the gain to your profession in lengthening the course in your medical schools, one of the greatest needs has not yet been met—the need of liberal and thorough preparatory training. The importance of this no one will deny. An attempt, however, has been made to meet it in the present requirement of a high school diploma for admission to any medical school in this State. This is an undoubted advance over the former condition which practically insisted upon nothing beyond the desire to study medicine. A high school diploma has a more or less distinct educational value, but how far does it answer the demand for preliminary training.

Upon this I can speak with some authority, as it is virtually the requirement for admission to college. We have learned from experience that these diplomas are of unequal value, not so much because of the relative merits of the different schools that issue them as because of relative merits of the different courses of study for which they are granted. The elective system has invaded our high schools to an unwarranted extent, and while under the supervision of the Board of Regents the election is confined for the most part to courses rather than to subjects, still these courses are of such varied disciplinary value as to call into question the wisdom of the whole system. Theoretically an English course with no foreign language, ancient or modern, with a minimum of mathematics, some history, science, civics and stenography may be equal if not superior to a course putting special emphasis upon languages and mathematics, but we who have to deal with the graduates know that it is not, and we know further that a course with mathematics and one modern language is not equal to a course with mathematics, a modern language, and Latin, and that the latter course is not equal to a course with mathematics, Latin, and Greek. If it is asked, how do we know all this ? I can only answer, "By their fruits ye shall know them"—by the simple test of ability to do college work. Two students come to us from the same school; they have spent the same number of years in study, have enjoyed the same companionships, the same general privileges, but have pursued different courses of study, and almost invariably the one who has given the most of his time to mathematics and languages is found to be superior in mental grasp, intellectual appreciation, power of concentration. The difference is not due to native ability, for it is scarcely conceivable that the brightest minds naturally should uniformly choose the same course. It must be due in large measure to the superior educational value of one course as compared with another. We may not be able to account for this superiority, but it is a fact which we are forced to recognize by the test of practical results. It does not seem to me difficult, however, to account for it. Mathematics is an exact science. It calls for logical and accurate processes of thought. The student cannot guess at results; he must reason up to them. It calls into exercise very different faculties from those required in the mere acquisition of facts. The mind is trained to think, to understand and explain, not simply to accept statements. While it is possible to make every subject of study disciplinary in this way, no other subject demands of necessity such an exercise of logical powers as does mathematics. The only reason that boys dislike mathematics is that they cannot think accurately, but that is a primary condition of sound education. Every profession calls for ability to solve problems, to solve them by processes of thought, not by brilliant guesses. If therefore natural dislike of mathematics leads a student early in his course to choose other subjects instead, he almost inevitably misses the training most important for further progress, and the lack becomes painfully evident in all his subsequent work.

The influence of language study is different, but quite as essential. Its effect is to stimulate and enrich the mind. A language is the residuum of the thought of a race. It is the deposit of the intellectual life of centuries, and for this reason has a wonderfully fertilizing quality. Words are full of suggestiveness, pregnant with thought. This is enough to indicate the peculiar importance of the study of a foreign tongue. The mind is thereby quickened into greater productiveness. Ability to use an alien language does not determine the value of the study of that language. Because of this the ancient languages are quite as valuable, to say the least, as the modern. That they are more valuable would seem to be proved by the vigor and richness of the intellectual life that expressed itself in these languages. When we have found a nation the current of whose intellectual life is broader and deeper and stronger than were that of the Greeks we shall have found a language with greater stimulating power than the Greek. Few will question the need of such a quickening energy. The child's mind is like virgin soil and yields luxuriant growths. The period of greatest originality of thought comes early in life, as all of us can testify who have children in our homes. Their bright sayings and startling questions seem to us prophetic of marvelous mental powers, but as the years advance the productiveness decreases, and for the great majority it fails almost wholly with the approach of maturity. Unless the mind is enriched, fertilized, it soon loses originality and does little more than repeat the thoughts of others, or its own earlier thoughts. So that culture studies become a necessity in true education, and among these the place of first importance belongs undoubtedly to language, for the reasons already given. Others of special value might be named, as history, philosophy, literature and, under certian conditions, the natural sciences.

I have been trying to show by this seeming digression why certain courses of study are of greater value than others, in the preparatory school, but the fact which I now wish to emphasize is that even the best of these fail to meet the necessary demands of the professional school, because of the time limit placed upon such preparatory studies. Under the most favorable conditions the high school graduate of sixteen, seventeen, or eighteen years of age has powers but partially developed. His habits of thought are not fixed; his mind is not yet wholly awake. His imperative need if he is to realize his intellectual possibilities and come into possession of his full powers of thought is the continuation of the studies best fitted to insure this result. If he lays aside these studies he acccepts something less than the best equipment offered to him for his life work. Let us suppose that he leaves the high school for the medical school. It is true that he continues his education, but not along the lines that still, because of his youth, represent his greatest need. His new curriculum is rigidly technical. It includes no mathematics, no language, not even the English, no literature broadly considered, no logic, no history, no philosophy. His intellectual development, as represented by these subjects, is suddenly arrested, and yet for mastery of the science of medicine he needs to a marked degree the training which they represent. The importance of the science as well as its inherent difficulties demands such training. It is not his own concern merely whether he prosecutes his professional studies with greater or less success. He is fitting himself for the most serious responsibilities any man can assume, and therefore to begin these studies with only a partial mental equipment is something more than a mistake. The alternative before him is a college course, the aim of which is to continue and complete the educational processes found by experience to be the most efficient. Much that I have said already has a direct bearing upon the value of such a course. Mathematics and the languages have a large place in the required curriculum of the first two years, then follow elective studies designed to enlarge the mind that has already been strengthened and enriched. That such a course is desirable none will deny. I have tried to show that it is imperative in preparation for a profession of such transcendant importance to society as that of medicine. But the great barrier to such a course in the minds of many is the time which it requires. When its four years are added to the four years fixed by law for the medical school, the prospect is discouraging. That this is a serious objection I freely admit, but that it can be removed to any great extent I just as seriously question. It should be accepted once for all that the profession of medicine rightfully and necessarily demands a longer period of preparatory study than other professions. At the same time I believe that the period can be shortened and should be shortened, so that including college, medical school, and hospital service a physician can begin his practice at twenty-five or twenty-six years of age, at the latest. How this result is to be obtained I can only indicate by a word. It calls for the reorganization of our whole system of primary and secondary school instruction, the application of more truly scientific methods, methods already employed in Germany. By a readjustment of subjects and an improvement in methods of teaching, at least two years can be saved, enabling the average boy to enter college at sixteen rather than at eighteen or nineteen, as at present. Our educational progress has worked from above downward. It has as yet barely touched the district school in the country and the primary grade in the city. The future is certain to see the changes that will go far to solve the problem which now faces those who are asking how they can join the liberal culture of the college and the training of the technical school in preparation for a life of usefulness in the profession of medicine. The traditions of the profession call for the best men and the best training. These it must have and will have increasingly.

THE MEDICAL EXAMINER FOR LIFE INSURANCE AND HIS RESPONSIBILITIES.*

By S. OAKLEY VANDER POEL, M. D.,

Medical Director of the New York Life Insurance Company.

Before stating what is required by the progressive life insurance companies of the present day of their medical examiners, it would perhaps be well to define briefly the position which they assume toward the acceptance of risks.

Ever since life insurance has become an established institution both in England and America, life insurance companies have until recently, been obliged to decline insurance to from ten to fifteen per cent. of all applicants, for the reason that they exhibited some marked impairment either of their own physical condition, or of their family history. The difficulty heretofore has been, that no systematic attempt has been made to collect and differentiate the various impairments, and consequently no fixed and mathematically correct data have been formulated which would serve to guide the Company in its decisions. There were no aggregated groups of persons suffering from the same disorder, though perhaps differing greatly in form, which would supply a basis by which to adjudicate upon a special case under consideration. In England they have for many years and still are, assessing by means of an extra premium, these impaired risks; but it has been admitted by Dr. Muirhead, of London, that this extra rating has been arrived at without the aid of any scientific formula, and by merely empirical methods.

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*Read before the Medical Society of the State of New York, January 30, 1900.

You will see from this that England is as yet, groping in the dark in this field; and it has remained for American push and energy to develop this vast field. American companies, recognizing that there was in this ten to fifteen per cent. of rejected applicants, a large field in which to extend the benefits of life insurance to these deserving applicants, began several years ago to divide these various forms of impairments into groups, and from these data the calculations were deducted. It can be readily appreciated that the difficulty which beset one in classifying so many thousands of damaged lives, was not a small one; for instance, in the study of tuberculosis, it was first intended to limit the study to consumption in the family record, to those cases which presented absolutely no other defect; but it was soon found that with our present knowledge of what constitutes impairment, it would be exceedingly difficult to draw the line between cases presenting only the impairment of consumption in the family record, and those which present some other impairment as well. It was therefore decided to place in this group, all cases presenting the family history of consumption, and the records consequently show a slightly worse mortality than those of simply consumptive taint.

In this study of consumption, we have accumulated some 10,000 cases, of which 3,000 refer to policies not placed, the policies being applied for during a period of fifteen years; and if kept in force, carried for a maximum period of twenty-five years, and a minimum period of ten years. The method employed was to obtain an inspection report upon each individual, and ascertain if he were alive; and if so, what his condition of health was, and if dead, what he died from. This inspection resulted in ninety-five per cent. of the entire number being traced, and accurate information obtained regarding the same.

Almost all of these are of different lives, but the same life when insured at different times has been treated as so many separate lives. In the accumulation of these statistics, a somewhat different method has been employed from that formerly in vogue, which was a study of the death records of the Company. It seemed that if it were possible to study applications on all policies in a given period of years, say between 1870 and 1885, no matter whether they were accepted or rejected by the Company, and these were reviewed and an abstract made of each case presenting a family history of consumption—by so doing a much more accurate idea of the impairment would be obtained than from a study of the death losses of the Company alone. A history of each case was made out, and the fact noted whether the risk was still in force; and if not, the mode of termination, whether by purchase, death, lapse or by maturing policy.

As a result of these observations which included all other forms of impairment, such as rheumatism, albuminuria, albuminuria associated with Bright's, different forms of cardiac disease, glycosuria, simple excessive over-weight and underweight—as a result of this study it has been possible to formulate new statistics on each impairment, and to offer insurance upon a scientific basis to proponents who formerly were denied the benefits to be derived from it.

In taking this step no departure has been made from the former conservative attitude in the selection of risks; for in order that an applicant may obtain a standard policy, he must still possess the same degree of physical excellence as was formerly required. The standard business is separated from the sub-standard with the same care that was formerly exercised when insurance was refused to the latter class; this radical change has been made with a view of simply extending the benefits of insurance, not only to normal lives, but also to that large number of sub-standard lives which heretofore have been denied insurance.

From this it will be seen that the most progressive companies no longer expect medical examiners to recommend the acceptance or rejection of a risk; aided by his special training and the practice of his profession, an examiner collects and records the facts upon which are based the valuation of the risk for insurance. As has been indicated, he is relieved of the embarrassment of rejecting a sub-standard risk, but is responsible for the accuracy and completeness with which the record of the personal history and physical condition is laid before the Company. The Company assumes the responsibility of treating the risk justly, while the examiner must assume the responsibility of submitting all the facts.

This being so, he is no longer called upon to grade the risks as first, second or third class; for it has been found that in determining the insurance value of a risk, every examiner is a law unto himself; and a case that one examiner would denominate as first class, would be thrown into a subordinate class by another examiner. The most advanced companies are, therefore, now in a position to instruct thier medical examiners throughout the country to the effect, that they are able to so measure impaired risks as to offer them a desirable form of insurance; and in consequence it becomes necessary for the examiners in reporting such cases, to give the fullest possible details of any impairment, whatever its character or degree; so that when the papers are presented, the data upon which to base an intelligent estimate of the insurance value of the risk will be present.

What is required of the examiner, is a pen picture of the applicant as he presents himself, and in this connection it would be well for the examiner to endeavor to place himself in the position of the medical department of the company, and read the papers he has just written, as if he had no other knowledge of the case than that contained in the records before him; and to ask himself if he obtain from them the same idea of the risk that he got from the examination itself.

If he did receive this impression, he can rest assured that his report will prove satisfactory at the Home Office; if not, it is incomplete.

When, for instance, the examiner discovers in an applicant, the presence of some cardiac derangement, he is requested to indicate upon a diagram with which he is furnished, these several facts: the location of the apex; the direction of transmission of the murmur; the area over which the murmur is heard; whether the murmur is systolic or diastolic; the point of greatest intensity, and last, the rate and character of the pulse after vigorous exercise. It is so arranged that this information can be transmitted on the aforesaid diagrams by simple signs, the whole procedure not occupying more than five minutes of the examiner's time.

When this information arrives at the home office, they have before them data upon which they can formulate a correct diagnosis, and determine in which class of cardiac cases the applicant is to be placed. If, on the other hand, the examiner detects the presence of albumen in the urine, he is requested to send a specimen of it to the home office by mail, in an appropriate package with which he is furnished. The object of the Company in personally examining the urine, is to determine if possible, what the etiological factor is in each case. Experience has shown that in a comparatively large number of cases, the mere presence of albumen is not a matter of very great moment in determining the longevity of a given individual. Young men frequently have albumen in their urine as a result of severe physical exercise; but more frequently is it found as a resultant of a previous urethritis, which has perhaps involved the bladder. A microscopic examination in these cases will go far toward determining the exact causation in each case.

From these observations it will be seen that all albuminurics cannot be placed in a single class; but that each case must be studied by itself, and if possible, a diagnosis made. This is rendered more accurate by microscopic observation, and hence we request our examiners to submit these specimens for Home Office consideration. In this connection permit me to mention a little practical procedure which has enabled us to carrry out this plan; formerly, considerable difficulty was experienced in obtaining a preservative for the specimens of urine, which would not alter the chemical re-actions, or interfere with the microscopic tests. Salicylic acid, chloral hydrate and chloroform have each in turn been used and found wanting; and it was not until urotropin was brought to our attention, that an ideal preservative was obtained. Four grains of this substance will preserve intact, a specimen of urine indefinitely. Small traces of sugar have been found after a lapse of six months, and the specific gravity, chemical re-action and microscopic appearances, tallied exactly with the original observations.

The medical examiner should have constantly in mind two important differences in mental attitude between the patient and the applicant for insurance. In the first place many, especially at their first examination or among the younger applicants, are extremely nervous; the idea that the examination may reveal some hidden ailment so takes possession of their minds as to disturb considerably the nervous equilibrium—to induce, as it were, a mild degree of shock. In such cases the pulse may be found extremely rapid or intermittent; there is apt to be pallor or muscular tremor. The picture is one of nervous debility or of a want of normal bodily vigor. Whenever an examiner meets with this condition he should be able, by tactful handling to re-assure the applicant, and to re-etablish the normal nervous balance; at any rate, he should make due allowance in his report for the disturbed mental state of his subject.

As to the other difference to which we have referred, when he consults his physician the patient endeavors to describe every detail of the disease of which he complains. He conceals nothing. His mental attitude is one of unreserved co-operation. When he is a candidate for life insurance, the case is very different; his memory for details is less acute; his state of mind is one of antagonism. He believes himself to be a good risk, and his bias of mind in that direction is so strong as—no doubt, unconsciously—to color his entire history. On this account a medical history for life insurance is a very different matter from that which is obtained from a patient. The patient assists his physician—the applicant for insurance does not assist the examiner. It requires time for any physician to adjust himself to this difference in mental attitude. The skilled medical examiner has learned this lesson.

It is on this account particularly that the examiner for life insurance must bring to his task complete independence of character, absolute integrity, and the ability to detect attempts at fraud. He must constantly bear in mind that he is the guardian of the interests of the company, and that upon his vigilance, judgment and integrity depends, largely, its success or failure.

From this it will be seen just the kind and character of information which it is necessary for the company to possess. Simplicity and the endeavor to relieve the medical examiner from any unnecessary work have been borne in mind, and consequently the blank has been shortened and re-arranged until its present simplified state has been obtained. A full examination for life insurance should not occupy more than twenty-five minutes of a man's time, provided he finds no physical impairment. In this connection permit me to remark, that it is often a matter of surprise that some of the best examiners submit the company reports in which there are glaring omissions, or in which the facts are only partially recorded. This always causes delay and extended correspondence, and it is therefore advisable, after one has completed the report of a case, to review the paper, and ascertain whether the questions have all been answered.

In conclusion, the aforesaid may be summarized as follows:

First, Insurance is now issued to under-average as well as selected lives; practically to all who apply;

Second, In each case it adjusts the plan of insurance to the insurance value of the risk;

Third, The medical examiner's report serves as a basis of valuation, and determines the plan upon which the insurance is offered.

47 EAST TWENTY-FIFTH STREET, NEW YORK CITY.

THE BACTERIOLOGY OF GONOCOCCUS INFECTIONS.*

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Accurate knowledge concerning the pathogenic agent concerned in gonorrhœal infections dates from 1879, when Neisser[1] reported, in a clear and precise manner, the discovery of a peculiar micrococcus found in large numbers in urethral gonorrhœa. To this micrococcus he gave the name of the gonococcus. This work of Neisser was followed by numerous publications which in the main confirmed his observations. Among this number may be mentioned those of Bokai, Finkelstein, Watson-Cheyne and Haab. The etiological importance of the gonococcus was, however, denied by some, and it was not until Bumm[2] in 1886 reproduced the disease by inoculation of the healthy human urethra with pure cultures of the

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gonococcus that its specificity was established beyond a doubt. As a result of the careful work of many observers, the gonococcus is to-day one of the best known of the pathogenic microorganisms.

The gonococcus usually occurs in pairs, the individual coccus having the shape of a coffee grain or biscuit, and hence the name of biscuit shaped diplococci. The size of the gonococcus appears to vary somewhat according as the medium upon which it is grown and the conditions under which it is grown are favorable or unfavorable.

One of the characteristics of the gonoccocus when present in pus, and especially in urethral pus, is its location inside the cells. Of course many gonococci will also be found outside the cells, but the characteristic situation is intracellular. When seen extra-cellular, the gonococci have a tendency to occur in definite groups, and this is often the result of the degeneration of the cell which originally contained them. It is to-day generally agreed that the gonococcus is but rarely found inside the nuclei of cells. It is also agreed by most observers that the gonococcus is found only in cells capable of phagocytic action, and that the gonococcus does not actively penetrate the cells.

The gonococcus stains readily with all the basic aniline dyes, and is as readily decolorized by alcohol, ether and the usual decolorizing agents. It also decolorizes rapidly by Gram's method.

In 1886 Bumm first succeeded in cultivating the gonococcus in pure culture. The essential feature of the culture medium used by Bumm was the presence of human blood serum, and upon such a medium he was able to obtain pure cultures which could be kept alive for several generations.

Wertheim[3] modified the culture medium by using a combination of agar-agar and human blood serum, and in this way obtained more constant and satisfactory results than with Bumm's method.

Finger[4] was the first to introduce a culture medium composed of agar-agar and acid urine, and upon such a medium he succeeded in growing the gonococcus.

Numerous experimenters have attempted to substitute serous exudates, ascitic and cystic fluids for the human blood serum, once considered absolutely necessary, and with considerable success.

Young[5] of Baltimore recommends a culture medium which is easily prepared and very satisfactory. The human albumen, which is absolutely necessary for the growth of the gonococcus, is obtained from ascitic or hydrocele fluid which can be collected sterile. Ordinary agar-agar is sterilized and while still in a liquid state is put in a water bath at 55°C. To the sterile agar tubes, the sterile hydrocele or ascitic fluid is added in the proportion of one part of the fluid to two of agar. The tubes are then slanted and allowed to harden and the medium is ready for use. Upon a suitable medium, colonies of the gonococcus develop in from twenty-four to forty-eight hours. The colonies are rather small, develop both on the surface and in the depths of the medium, and are usually thin and transparent.

For its best development, the gonococcus demands a medium that is slightly alkaline. It will, however, sometimes grow upon a neutral or slightly acid medium. The gonococcus does not, however, grow upon any of the culture media commonly employed for the study of bacteria, nor does it grow at the ordinary room temperature. There is a slight development at from 25° to 30°C., but the most favorable temperature appears to be from 35° to 37°C. The development is much impaired at a temperature of 38°C., and at 39° or 40°C. the gonococcus dies in a few hours. The gonococcus is thus very sensitive to variations in the temperature, and especially to high temperatures. Under the most favorable conditions, the cultures survive but a short time, rarely more than five or six days.

The gonococcus is very susceptible to dessication, and when dried, rapidly loses its virulence. Diluted with water, it loses its virulence in about five hours.

Many experiments have been made to determine the effect of antiseptics upon the gonococcus, and to most of these it is very susceptible. Steinschneider[6] and Schæffer have shown experimentally that the silver salts have a more marked bactericidal action upon the gonococcus than do the other ordinary antiseptics.

Contrary to the idea generally held, the urine of patients who have taken copaiba, santal oil or sodium salicylate has no bactericidal action upon the gonococcus. On the other hand, the urine of individuals who have taken potassium iodide appears to have some bactericidal action upon the gonococcus.

Through the work of Wassermann, Christmas, Schæffer and Nicolaysen, it has been definitely proven that the gonococcus produces a toxine; whether this toxine is extrabacterial, that is, present in the fluid media, or whether it resides only in the gonococcus and is released by destruction of the latter, has not been definitely proven. A gonorrhœal infection does not render an individual immune to a subsequent infection with the gonococcus.

The specificity of the gonorrhœal infections had been determined by experimental inoculations long before the question of the microorganisms concerned arose.

Since the discovery and cultivation of the gonococcus, many experimental inoculations of the healthy human urethra with pure cultures of the gonococcus have been made. In a great majority of these cases a perfectly typical gonorrhœa has developed which differed in no way from ordinary gonorrhœa, and from which again the gonococci were obtained in pure culture.

It is definitely proven that a small quantity of pus containing gonococci, inoculated upon a susceptible mucous membrane, is capable of setting up a gonorrhœal infection. The specificity of the gonococcus as the cause of gonorrhœa has thus been proven beyond a doubt.

In no instance has an attempt to produce gonorrhœa in animals, by the inoculation of gonococci into the urethra, been successful. Wertheim succeeded in producing a peritonitis in white mice and guinea pigs by introducing into the peritoneal cavity a piece of serum agar along with the gonococci. Mortschanoff[7] has produced marked lesions of the central nervous system of white mice, rabbits and guinea pigs by the injection of the toxines produced by the gonococcus. Other attempts to produce lesions in animals by means of inoculations with the gonococcus have failed. It is this insusceptibility of animals to the gonorrhœal infections that has rendered the experimental study of the gonococcus so difficult.

The genital organs possess a very varied bacterial flora, and this flora has much importance, for on the one hand it is concerned in the complications and sequellæ of gonorrhœa, and on the other hand it has to do with affections that may resemble gonorrhœa.

Some consideration, then, of the normal and pathogenic bacteria of the urethra, aside from the gonococcus is of importance.

Following Marcel[8] Seé, one may in brief say:

(1) The anterior urethra normally contains bacteria. These are more numerous about the meatus than further back in the urethra.

(2) The bacteria normally present in the urethra are not pathogenic, but the increase of some of them in certain cases of urethritis may indicate that they play a role in certain urethral affections, and at times they may possess an increased virulence.

(3) In a normal urethra one never finds the gonococcus, and thus it cannot be considered a normal member of the urethral flora.

(4) Strictly speaking, pseudo-gonococci do not occur in the urethra. Practically the only point of resemblance between the so-called pseudo-gonococcus and the gonococcus is that of form. None of the so-called pseudo-gonococci decolorize by Gram's method, while the gonococcus does.

Then too, the arrangement and grouping of the pseudo-gonococci differs from that assumed by the gonococcus.

The gonorrhœal infection may remain localized at the original point of infection, in which case it would be simple or uncomplicated. It may, however, give rise to complications, and these are of a very varied character. These complications may develop as a result of direct inoculation of the pus into another organ or part. They may also result from the extension of the original focus, either by contiguity or by continuity, and finally they may result from the passage of the pathogenic agent into the general circulation, and thus distant foci of disease are produced which are called metastases.

For a long time coitus was believed to be the only means by which a gonorrhœal infection could be acquired, that is, the theory of direct contagion. To-day we know that an infection with the gonococcus may also occur through what is known as indirect contagion, in which soiled linen, toilet articles, etc., are recognized as the carriers of the contagion.

The gonococcus may gain a foothold upon any of the epithelial surfaces, with the exception of those provided with a horny layer. The gonococci at first proliferate rapidly upon the surface of the epithelium, and presently begin to work their way in between the epithelial cells, and here and there they may be found developing in clumps. In the meantime there has occurred a marked reaction on the part of the surrounding tissues which manifests itself in an accumulation of leucocytes in the epithelial and sub-epithelial tissues, as well as upon the surface of the epithelium.

The invasion of the gonococci is in general of a superficial character, and only slowly do they tend to make their way into the deeper tissues. The mode of progression of the gonococci in the tissues is somewhat peculiar, in that they make their way along the inter-cellular or lymphatic spaces and do not cause as marked destruction of tissue as do the ordinary pus cocci. The gonococci may eventually make their way into the sub-epithelial connective tissue, where they often occur in clumps.

Gonorrhœal urethritis in the male is usually limited to the anterior portion of the urethra. The incubation period is usually from three to five days. The infection begins with a mucous secretion from the urethra, in which polygonal cells of the stratified epithelium of the urethra predominate, associated with a few leucocytes. The gonococci are numerous; most of them are free, while some adhere to the cells, and some are already intra-cellular. As the process advances, the secretion becomes muco-purulent in character, the epithelial cells are less numerous, while the leucocytes are much more numerous; the gonococci are also very numerous and most of them are contained in leucocytes. At the acme of the urethritis, the secretion is composed almost exclusively of leucocytes, many of which contain gonococci. During the decline of the infection, the secretion becomes more fluid. There are still numerous leucocytes present, many of which contain gonococci; the epithelial cells have reappeared in the secretion, and many of them are of a polygonal character. Finally, in the terminal stage, the polygonal cells are very numerous, while the leucocytes and the gonococci are present only in small number.

In chronic urethritis, the process is characterized by a chronic inflammation of the sub-epithelial tissues, with a tendency to contraction. The surface epithelium, as well as the epithelium of the glands of the urethra may be much modified by an infiltration of round cells.

When the gonococcus takes possession of the urethra, the other bacteria usually present seem to disappear, to reappear later when the virulence of the gonococcus has become lessened. In certain instances the gonorrhœa may be complicated by a secondary infection with other bacteria, and among these the bacillus coli communis is especially to be mentioned.

Neusser[9], Epstein[10], Zeleneff[11] and Finger[12] have shown that many of the leucocytes present in gonorrhœal pus are of the eosinophilic variety, while the remainder are poly-morphonuclear neutrophiles.

When the gonococcus passes beyond the anterior urethra, it gives rise to complications. Posterior urethritis is a complication due to an extension by continuity. By a further extension of the process the gonococcus may cause an inflammation of the cord, the epididymis or the testicle. By extension by contiguity the gonococcus may give rise to a peri-urethral abscess, a vesiculitis or a prostatitis.

Melchior[13] in 1893 was probably the first to find the gonococcus in the bladder urine of a case of acute cystitis. He did not, however, obtain cultures. Wertheim[14] in 1895 was the first to cultivate the gonococcus from the bladder of a case of acute cystitis. Young of Baltimore has recently reported three cases of acute cystitis, in all of which he found the gonococcus in coverslip and in one he obtained it in pure culture. The same writer has reported the first and so far the only case on record of a chronic cystitis in which the gonococcus was the only microorganism found. It was present in great numbers, and was obtained in pure culture. The case was one in which the cystitis had existed five years, and had followed gonorrhœa. In two other cases of chronic cystitis reported by Young, the gonococcus was found in coverslip but was not obtained in culture.

A number of cases have been reported in which the clinical signs and symptoms have seemed to indicate a pyelitis or pyelonephritis, acompanying or following gonorrhœa, and in which the gonococcus was believed to be the cause of the renal trouble. As yet, however, no positive proof of this has been furnished in the nature of a demonstration, either by coverslip or cultures of the gonococcus as the cause of the renal disturbance.

The gonorrhœal infections of the female genito-urinary organs are of such great importance that they demand especial attention. The normal flora of these organs need scarcely be considered here, since of this flora only the so-called pseudo-gonococci are the species which interest us. In the female as well as in the male genito-urinary organs the pseudo-gonococcus exists only in name and need never be a source of confusion.

It is to-day generally agreed that the specific, highly contagious disease of the lower female genitalia and the urethra is caused by the gonococcus and the gonococcus alone.

The so-called latent infections have attracted much attention and have given rise to the question as to whether a woman who showed none of the clinical signs or symptoms of gonorrhœa was capable of inducing a gonorrhœal infection in a man who might cohabit with her. This is a question of especial importance in those countries in which the government exercises supervision over the prostitutes. The most recent evidence seems to show that the gonococcus cannot live in a mucous membrane without causing more or less of an inflammatory condition of the same. In many instances, however, a superficial examination of the genitalia fails to reveal the existence of any inflammatory condition. If in these cases careful bacteriological examinations are made, together with a very careful inspection of the parts, it will be found that when the gonococci are present there will be some evidences of inflammation. This indicates the great care which should be observed in the examination of suspected cases of gonorrhœa in the female and also emphasizes the fact that in all suspected cases, careful bacteriological examinations should be made. The same would also hold true in suspected cases of gonorrhœa in the male.

When once it has taken up its abode in the genito-urinary tract, the gonococcus tends to remain for a long time in the infected part. This is especially true of the urethra, where the glands form a most favorable place for its continued development after almost all the clinical signs and symptoms have disappeared. Noeggerath has introduced the sweeping principle that "once infected always infected," though this is denied by Bumm, who believes that in some cases at least, the gonorrhœal infection can be cured.

In the female the urethra is the most frequent seat of the gonorrhœal infection. The infection is not as a rule as severe as in the male, and the acute form tends to disappear more quickly, which explains the frequency with which it is overlooked. There is, however, a marked tendency to chronicity owing to the richness of the urethra in glands.

The etiology of vulvo-vaginitis in very young girls was for a long time much disputed. That it is usally due to the gonococcus was proven a number of years ago, but the mode of infection was not at all understood, for in only a small percentage of the cases could violation be assumed as the source of the infection.

It is well known to-day that the gonorrhœal infection may be transmitted from one individual to another by various means other than the sexual relation. Toilet articles, soiled linen, the bath or the hands of patient or nurse may serve as carriers of the contagion.

In the adult female, the vulva and vagina are only rarely the seat of a gonorrhœal infection. This is supposed to be due partly to the resistance offered to the penetration of the gonococci by the stratified epithelium, and partly to the fact that the great number of bacteria normally present in these parts destroy the gonococcus.

Bartholinitis is not an infrequent complication of gonorrhœa in the female. It is generally agreed that the great majority of cases of Bartholinitis are due to a gonorrhœal infection, a fact readily demonstrated by culture and coverslip. Bumm has called attention to the fact that in many of these cases the infection is confined to the efferent duct of the gland and in this way an occlusion of the duct may be effected and the formation of a so-called pseudo-abscess take place.

In gonorrhœal infections of the female, metritis in point of frequency is second only to urethritis. Infection of the cervix is very common in gonorrhœa, while involvement of the body of the uterus is considered by many to be a complication. In many cases, however, the uterus appears to be infected directly and in some cases it is the only part infected. It is not unusual to find a mixed infection in these cases of metritis.

Westermark[15] in 1886 was the first to recognize the gonococcus in the pus from an acute inflammation of the Fallopian tube. His observations have been frequently confirmed. Wertheim in particular has made most valuable contributions to the knowldege of gonorrhœal salpingitis. He examined the pus from 116 cases of suppurative salpingitis, and found the gonococcus in thirty-three. From many of these cases he cultivated the gonococcus in pure culture, and performed successful inoculations of the urethra of human individuals with these cultures. He found the gonococcus not only in the mucous membrane of the tube, but also in the musculature, from which he assumed that it could cause an infection of the peritoneum.

In three cases Wertheim found the gonococcus in abscess of the ovary, thus showing that it is capable of causing an ovaritis. The ovaritis usually appears to be secondary to a periovaritis.

Gonorrhœal peritonitis is practically unheard of in the male, but in the female it is not of infrequent occurrence. It is usually a circumscribed affair and limited to the pelvis. Ceppi in 1887 first demonstrated the presence of the gonococcus in a circumscribed peritonitis, and Wertheim and others have found the gonococci in the peritoneal exudate in a number of cases of circumscribed peritonitis. Wertheim assumes that the gonococcus reaches the peritoneum either by wandering through the walls of the tubes or by escaping from the fimbriated extremity. Most writers are inclined to reject the former possibility and accept only the latter. When the gonococcus alone is present the peritonitis is usually of a benign character, but not infrequently there exists a mixed infection.

The first cases of acute general peritonitis due to the gonococcus were reported by Cushing[16] in 1899. In one case the gonococci were obtained in pure culture from the peritoneal exudate, as well as from the deposit on the peritoneal surfaces. In the other case, the gonococci were not grown from the peritoneal exudate, but were obtained from the tubes.

Next to the genito-urinary tract, the eye is the most favorable site for a gonorrhœal infection. The conjunctiva seems to offer to the gonococcus almost as favorable a medium for its development as does the urethra. Gonorrhœal infection of the eye is characterized by its peculiar character, its contagiousness and the complications to which it may give rise. The association of purulent conjunctivitis with gonorrhoea was recognized long before the discovery of the gonococcus. Numerous inoculations of gonorrhœal pus into the eye have been made ever since Jaeger in 1812 recommended this mode of treatment of pannus.

Likewise experimenters as early as 1858 had successfully inoculated the human urethra with pus from cases of purulent conjunctivitis. Fairly exact ideas were held regarding ophthalmia neonatorm and it was believed to be due to an infection during birth, an idea which has resulted in the modern prophylactic treatment. In his original article on the gonococcus, Neiser clearly demonstrated that it was the etiological factor concerned in ophthalmia neonatorum.

Gonorrhœal ophthalmia of the adult is usually due to auto-inoculation, chiefly by means of the fingers which have come into contact with the gonorrhœal pus from the urethra. This explains its greater frequency among men than among women, and also the fact that the right eye is more frequently involved than the left. It would also appear probable that some cases of gonorrhœal infection of the eye are of metastatic origin. This would appear to be especially true of certain cases of iritis and conjunctivitis occurring in association with urethral gonorrhœa, though absolute proof of this supposition is lacking.

Gonorrhœal infection of the anus and rectum was for a long time believed to be of rare occurrence. Recent investigation, however, has shown that it is not at all infrequent.

In some cases the infection seems to occur as a result of rectal coitus, while in other cases the anus and rectum are infected by a gonorrhœal disharge from the vagina, and this explains the fact that it is far more frequent among women than men. Rectal gonorrhœa deserves considerable attention, since it is the cause of not a few chronic ulcerations of the rectum. The gonococci can usually be demonstrated in the discharge from these ulcerations in which they show their characteristic tendency to intracellular location.

Souplet, Rosinski[17] and Leyden[18] have reported cases in which the gonorrhœal infection has involved the mucous membrane of the mouth. Most of the cases reported were in the new born. There have, however, been one or two cases in the adult reported in which the gonococci were found in the secretion from the areas of ulceration.

Infection of the nasal mucosa by the gonococcus is rare, and there are only a few authentic cases on record in which such an infection has occurred. The cases reported have been for the most part in new-born or young children, and have usually been associated with a gonorrhœal ophthalmia.

Colombini[19] has reported the only case in which the gonoccocus has been obtained in pure culture from a suppurative parotitis occurring as a complication of a gonorrhœal septicæmia.

Seifert[20] has reported a case of mastitis in an infant from which he obtained the gonococcus. The mother had had a gonorrhœal infection of the genital organs.

Clinical evidence seems to favor the view that the gonorrhœal infection is capable of causing disturbances of the central nervous system, but the presence of the gonococci in the meninges of either the brain or the cord has not as yet been demonstrated.

Among the metastatic complications of gonorrhœal infections, arthritis is the most frequent. The etiology of the arthritic affections has long been disputed. Some have maintained that they were due to a secondary infection; others that they were due to the toxines of the gonococcus, and still others that they were caused by the gonococcus itself. Of the truth of the latter view there is no longer any doubt.

That the gonococcus is not found in all cases of arthritis complicating gonorrhœa is often due to the fact that the gonococcus has died out before the cultures are taken and its place taken, perhaps, by some other of the pus producing microorganisms, for we know that the gonococcus prepares the way admirably for a secondary infection.

Petrone[21] in 1883 and Kammerer[22] in 1884 were the first to describe the gonococcus in an arthritic effusion complicating gonorrhœa. They did not, however, obtain cultures.

Hock[23] and Rendu[24] in 1893 seem to have been the first to obtain the gonococcus in pure culture from such effusions; since then numerous observations have been reported in which the gonococci have been obtained in pure culture from cases of arthritis complicating either gonorrhœal urethritis or gonorrhœal ophthalmia.

The only case on record of a gonorrhœal perichondritis appears to be one reported by Finger[25], Ghon and Schlagenhaufer, in which the gonococcus was obtained both in cover-slip and in culture from an inflammation of a costal cartilage.

Tendo-vaginitis and bursitis, though rare, are nevertheless well recognized complications of gonorrhœa.

Dupré[26] in 1889 appears to have first observed the gonococcus in the pus from a case of tendo-vaginitis. He did not, however, obtain the gonococcus in culture.

Tollemer[27] and Macaigne were the first to obtain the gonococcus in pure culture from a case of tendo-vaginitis, and since their observations, several similar ones have been reported. Clinically it would appear that the tendon sheaths of the extensor digitorum communis, the flexor pollicis longus and the tendo Achillis are most frequently involved. This fact coupled with his own experience has led Jacoby[28] to consider Achillodynia as a gonorrhœal disease.

There are several clinical observations on record in which pleurisy has occurred in the course of gonorrhœa. Mazza[29] in 1894 was the first to obtain the gonococcus in pure culture from the exudate in a case of double pleural effusion which occurred in the course of a gonorrhœa, and which was associated with gonorrhœal polyarthritis. Chiaiso[30] and Isnardi have reported a similar case in which the gonococcus was obtained in pure culture from the pleural exudate.

In several instances subcutaneous abscesses have been observed associated with a gonorrhœal infection. In most of these cases, however, the abscesses have been near a joint or tendon sheath and the possibility of a mere extension of the process from the joint or tendon sheath must be considered.

Bujwid[31] in 1895 reported a case in which there were four intra-muscular abscesses of the thigh from which the gonococcus was obtained in pure culture.

Though lymphangitis and adenitis are not infrequent complications of gonorrhœa, it is only rarely that the gonococcus has been obtained from them. One of the most positive and authentic cases in which the gonococcus was obtained from an inguinal bubo has been reported by Colombini.

Since it is admitted that in producing metastatic infections, the gonococcus travels in the blood current it is not at all surprising that gonorrhœal complications occur in connection with the circulatory apparatus.

There is to-day no question about the occurrence of a definite gonorrhœal septicæmia. The first authentic instance in which the gonococcus was obtained in pure culture from the circulating blood was reported by Thayer[32] and Blumer in 1895. Since then several other similar cases have been reported; notably one reported by Thayer[33] and Lazear, and one reported by Colombini.

Cardiac complications of gonorrhœa have been observed not infrequently and have been very carefully studied. The gonorrhœal infection may involve the endocardium, pericardium or myocardium, but appears to manifest a special preference for the endocardium.

The myocardium appears to be involved only by an extension of the process from the pericardium or endocardium. Cardiac complications may or may not be associated with articular complications.

Weichselbaum[34], His[35], Leyden[36], Finger, Councilman[37] and others have described in vegetations in endocarditis, as well as in myocarditis and pericarditis, a diplococcus corresponding morphologically to the gonococcus and decolorizing by Gram's method. More recently the gonococcus has been obtained in pure culture from the vegetations in ulcerative endocarditis.

In conclusion it may be said that gonorrhœa is a specific infectious disease, due to a single microorganism, the gonococcus. Through extension of the gonorrhœal infection by continuity, contiguity or metastasis a great variety of complications may occur in association with which the gonococcus can be demonstrated.

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Clinical and Pathological Notes

A Case of Mammary Cancer with Metastatic Involvement of Bones.—While metastatic deposits following cancer of the breast are very frequent, according to Snow[1], occurring in eighty per cent. of all fatal cases, and according to Williams[2] in sixty-one per cent. of cases, yet metastatic involvement of bones is not of frequent occurrence. Tillmanns[3] quotes Paget who in six hundred and fifty cases of carcinoma of breast which came to autopsy, found metastases only eighteen times in the femur. Williams[2] in a series of forty-four autopsies on such cases, found the femur involved in four cases and in another series of five hundred and thirty-three autopsies, secondary carcinomatous disease was found only eight times in the femur and once in the tibia.

It would appear from these statistics that cancerous involvement of bone, secondary to cancer of the breast, is of sufficient rarity to justify the publication of the following case which, aside from the infrequency with which such cases occur, presents some interesting features.

I am enabled to report it through the kindness of Dr. J. M. Mosher who saw the patient at this hospital some years ago and who brought the case to my attention. It is to be regretted that a more detailed description of the case was not recorded at the time of the patient's death. Never having seen the case and reporting without having anything at my command except the briefest possible notes, I am unable to describe it as I should wish.

M. B., aet. 49, widow, housewife, was admitted to Willard State Hospital September 28th, 1875. Having been previously an inmate of several county houses, from one of which she came here, no definite history accompanied her at time of admission. At any rate, nothing is known of her family history. She was at that time suffering from an attack of chronic mania which had lasted two and one-half years. In the autumn of 1883 it was noticed she had a tumor of the breast, which soon ulcerated and was diagnosed as carcinoma. The patient refused operation and the disease progressed slowly, not affecting her general health to any extent until March, 1886, when the ulceration began to extend rapidly and the patient to fail physically. A tumor appeared in the opposite breast and grew quite rapidly. She continued to fail slowly until July 24, 1888, when she slipped on the floor and fell, sustaining a fracture of both bones of the right leg. The ordinary means were used to immobilize the leg, but no union was obtained and during the following October, signs of a forward curvature of the tibia were noticed. This curvature continued to grow more prominent until January, 1889, when it became stationary. In July of that year, attention was called to the right femur, which on examination was found to be fractured through the middle third. There was no evidence of injury, and as the patient had been in bed since the preceding October, it was unlikely that she had received any traumatism. A temporary splint was applied to the thigh, but being of no use, was soon removed. The patient failed rapidly from this time and died July 30th, 1889, six years after the tumor of breast was first noticed and a year after the first fracture occurred. At the autopsy the right femur, tibia and fibula and liver were found to be the seats of metastatic carcinomatous disease. The femur was a mere shell, filled with a spongy material, and was easily bent or broken. In the upper third of femur, a complete fracture was present, which permitted flexion of the thigh at this point, almost to a right angle. The tibia was fractured through middle third and fibula through lower third. Both tibia and fibula appeared decalcified and were of the consistency of cartilage. All these bones were greatly thickened, which gave the right lower extremity an appearance in marked contrast to the other parts of the body which were all emaciated. The appearance of the extremity is well shown in the accompanying photograph.

R. E. DORAN.

WILLARD STATE HOSPITAL, WILLARD, N. Y.

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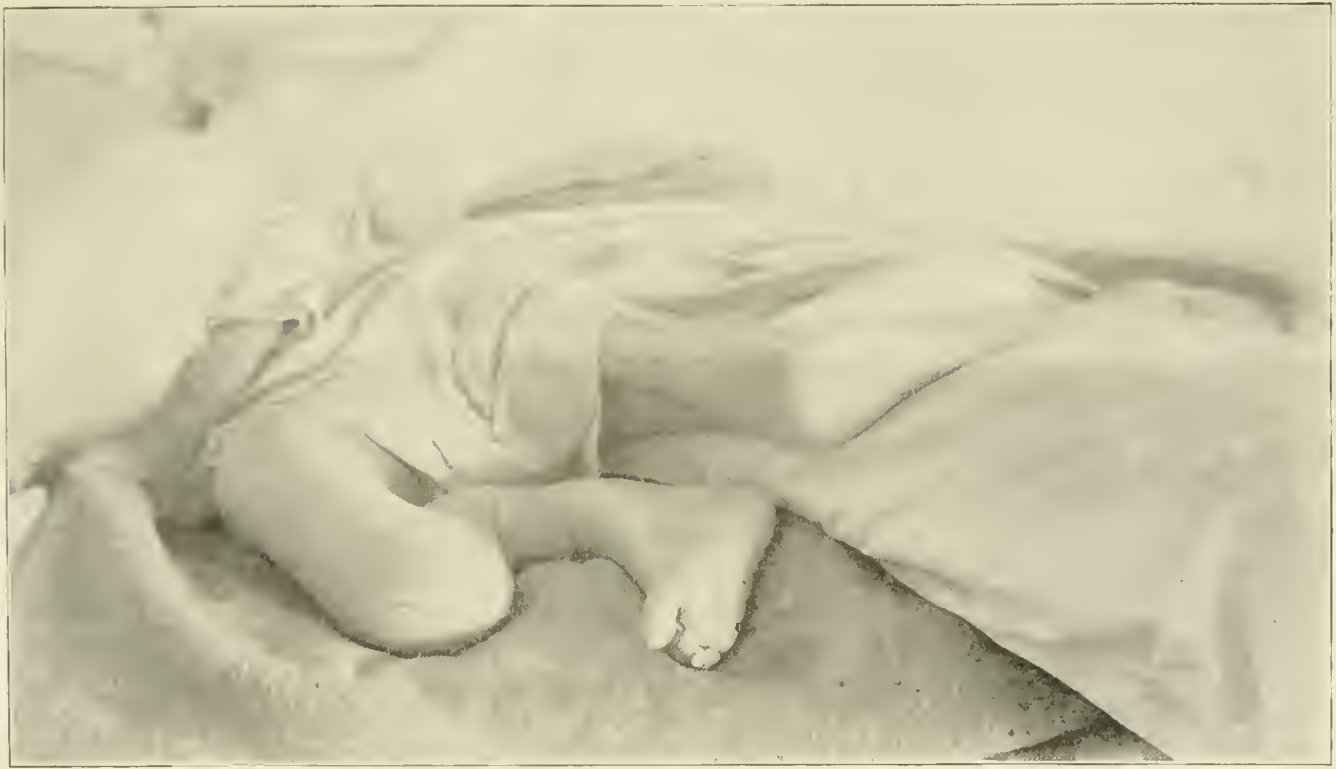
Dissecting Room Anomalies, Albany Medical College.—*First, Muscle.*—A muscle arising by very strong tendinous fibres from the costo-coracoid membrane and the sheath of



To Illustrate Dr. Doran's Report of "A Case of Mammary Cancer with Metastatic Involvement of Bones."

Albany Medical Annals, March, 1900.

the axillary artery and external cord of the brachial plexus immediately underneath the clavicle. This origin was about one centimeter wide. The muscle then formed a ribbon-shaped fasciculus eight centimeters long and five millimeters thick at its thickest part, which was directed outwards, forwards and downwards, passing in its course between the fibres of the outer cord of the brachial plexus, to the outer side of the artery and between the two pectoral muscles. As this muscle passed over the tendon of the subscapularis its fibres were in part attached to the walls of the bursa usually found between the tendon of that muscle and the coronoid process of the scapula. The muscle was finally inserted into the deep fascia and the shaft of the humerus immediately underneath the larger of the tuberosities.

Second, Nerve.—The lateral cutaneous branch of the third intercostal nerve was very much enlarged. The costo-humeral nerve was of the usual size while the lesser internal cutaneous (Wrisberg) was missing and the internal cutaneous small in size. The lateral cutaneous nerve of the third intercostal evidently took the place in part of the two cutaneous branches from the inner cord of the brachial plexus and assisted in an unusual degree in furnishing sensory filaments to the upper and inner humeral region.

JOSEPH D. CRAIG.

Nephritis of Pregnancy.—History of Two Neglected Cases.—*Case I.* Mrs. F. R., age 24; married; housewife; mother of two children, both labors having been natural and uneventful; youngest child six years of age; patient grown very fleshy since birth of last child.

Present Pregnancy was uneventful until about the seventh month when the patient was taken with severe gastric disturbance, associated with almost constant nausea and vomiting, complete anorexia and some œdema of legs. She had noticed a peculiar waxy appearance of the skin. Her family physician gave hypodermics of morphine from time to time and after examination of the urine told her the "kidneys were in bad condition." The gastric symptoms continued, œdema of legs increased, œdema of eyelids occurred in the morning and she had "spells of blindness." Pregnancy was allowed to go on uninterruptedly.

At about the thirty-fifth week she had some mild labor pains through the night followed by rupture of the membranes.

The physician who was called found the patient in a comatose condition with scarcely perceptible pulse, complete loss of vision and œdema. She had voided no urine for forty-eight hours. Stimulants were administered and I was called in consultation and found the patient as above described. The pulse could not be counted at the wrist; over the heart it was about 190 as nearly as could be estimated.

Examination revealed no foetal heart sound, vertex presentation, R. O. A. The cervix admitted two fingers. There was slight oozing and the head was not firmly engaged. With catheter about four drachms of urine were obtained which coagulated on addition of heat and acid. (A small specimen obtained next morning contained small and large granular casts in abundance.) She improved during the night under hypodermatic stimulation until 7 A. M., when the pulse was 140 and much stronger, and vision had improved until she could see people in the room but could not recognize faces. Ether was administered and after careful preparation of the patient the cervix was dilated with steel dilators and hand until the forceps could be applied and delivery was effected. The patient soon recovered consciousness and three hours after operation the pulse was 140 and temperature 99.4°. The urine was loaded with albumen and abundant casts. Various diuretics were tried and given up as no medication would be retained. The catheter was used twice daily and Betz dry hot air bath was employed; the bowels were freely opened after the first day. Vision steadily improved, the pulse gradually grew weaker and more rapid, œdema in legs increased and œdema of back began until patient was practically "water-logged." On the fifth day after the operation she died in condition of coma. Her apparent improvement after delivery with no increase of urine and constantly increasing œdema appeared unusual.

Case II. Mrs. W. C., aet. 28; housewife. History of three previous pregnancies with only one living child. Two instrumental deliveries in which children were "still born." In present pregnancy gave history of nausea and vomiting extending over a period of five or six weeks. She had grown very weak and anæmic from lack of nourishment.

Labor pains began at about the thirty-fifth week. I was called after she had been in labor forty-eight hours. I found vertex presentation, L. O. A., foetal heart sounds indistinct and about 160; cervix almost completely dilated; head not engaged and bag of waters intact. The pulse was 120, weak and irregular. A murmur could be heard at the apex of heart corresponding in time with first sound which it replaced. The urine contained a large quantity of albumen and small granular casts. She had been unable to retain any nourishment for three days and was constantly growing weaker with almost constant vomiting. I prepared the parts at once by scrubbing and douche, enema and use of catheter; introduced my hand and did internal podalic version without anæsthetic or assistant. The child was delivered as rapidly as possible, that is in about fifteen minutes after getting the foot. The child died in about two hours in spite of insufflation and artificial respiration. The mother made a good recovery, without complications, and now at the end of three weeks is up and about. The urine still contains a trace of albumen, but for the last week I have been unable to find any casts.

In conclusion I will say that the test for albumen alone in these cases is of little value, as but few cases go to full term without at some time at least a trace of albumen. Hyaline casts may also be of no special significance, but with the presence of albumen in large quantities and small or large granular casts in any numbers, diminished amount of urine, gastric disturbances (nearly always an early if not the first symptom recognized) and œdema, with patient constantly growing weaker, operative influence is always indicated.

The above I think are fair examples of nephritis of pregnancy and good examples of the mortality in neglected cases.

R. H. IRISH.

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Correspondence

THE MILK SUPPLY OF EUROPEAN CITIES.

MANCHESTER, ENGLAND, *February* 1, 1900.

In a previous letter I touched upon the milk supply of Vienna and my only excuse for again writing on this topic is its great importance. It should be a matter of interest if not of instruction to learn the way this matter is dealt with in other countries. The infant mortality in Vienna is about thirty per cent. and two-thirds of these deaths result from digestive disorders. Impure and improper milk plays the chief part in this tragedy.

Before leaving Vienna a few weeks ago, through the kindness of Professor Gärtner, I was shown a large dairy establishment where the "fettmilch" is prepared. This modification of cow's milk originated with Professor Gärtner and briefly is as follows: Fresh cow's milk is diluted with an equal part of warm boiled water and placed in an ordinary centrifugal cream separator. The output is so regulated that when revolving from four to six thousand times a minute the steam coming from the inner or cream tube equals that from the outer which carries the separated milk. The milk coming from the inner tube is the desired fettmilch. Four per cent. of sterilised milk sugar is added and the milk bottled and sterilised. This dairy was in the heart of the city but the milk all comes from the country where the cows are pasture fed. The cows are said to be carefully inspected by officers of the company. In Austria and Germany it is a very common custom to keep the cows in stables all the year owing to the scarcity and expense ot pasture land and much milk of this source is on the market. The dairy was clean and nothing objectionable was noted. The fettmilch is sterilised by placing the bottles in a large steam chest where it is subjected to a temperature of 105° centigrade for half an hour. They prepare about five hundred liters of fettmilch daily. An expert chemist is employed whose duty is to make quantitative fat estimations. The Gerber sulphuric acid test is employed. The object of Professor Gärtner's method is the same as that of all methods—to render cow's milk as near like mother's milk as possible. Roughly speaking, in order to secure this the fat and sugar must be increased and the casein decreased. His principle depends on the well known fact that the fat globules are the lightest element in milk. In the centrifuge the fat will fly to the inner surface and so out of the inner tube will come practically all the fat globules, half of the casein, sugar and salts. The separated milk on the other hand contains all the water, half of the casein, sugar, and salts and about one to two-tenths of the fat. The addition of milk sugar brings the composition of fettmilch very close to that of breast milk. A most important advantage by this process is the complete removal of all dirt and a very large percentage of bacteria. All the dust, dried fæces, epithelium, cowhairs, etc., are forced to the outer surface. As the bacteria are heavier than the fat globules they also escape through the outer tube. Farmer's journals often warn against the use of separated milk for feeding hogs as it causes great mortality. This is due to the dirt and microorganisms with which it is loaded.

The efficacy of this milk cannot be doubted by anyone who has seen the wonderful results in premature and puny infants which Professor Escherich has had in Graz. He is a firm believer in fettmilch and it has been used in his clinic for several years. Professor Gärtner first described this method before the German Scientific Association six years ago and since then it has been pretty generally introduced in Austria, France, Germany and Italy. I was told a company had been formed in England and in New York but that it had not met with financial success in either place. It is sold in Vienna, costing a trifle more than ordinary whole milk. The cheapness of the preparation is one of the advantages claimed. The Walker Gordon products are much more carefully supervised and prepared but the expense prohibits their adoption by the poor and this is the class where the infant mortality is so high. Professor Gärtner told me he thought at least 60,000 children were now being raised on fettmilch. He showed me with apparent pride his only child, four months old, as an undeniable proof of what the fettmilch can do. The baby was plump, rosy and the picture of health. I thought the professor could not show his faith in the fettmilch by a more convincing argument and his wife was even more enthusiastic in its favor.

Professor Monti in his lectures doubts the value claimed for the fettmilch. This lack of faith may be caused by a personal bias in favor of his own system. It is only fair to add that Professor Gärtner shares the same distrust as regards the efficacy of Monti's "Säugling's Milch." In a recent lecture Professor Monti said that the choice of an infant's food depended as in the choice of the size and shape of a woman's skirt—on fashion. Professor Monti's method is to employ whey to dilute the milk. This is prepared by adding a small amount of rennet in solution to the milk, bringing it almost to boiling and filtering through silk. Nearly all the casein and fat is thus removed while the amount of sugar is unchanged. The Vienna dairy supplies it in three dilutions, two parts whey with one of milk, equal parts of whey and milk, and one part whey and two parts milk. The composition of this milk resembles that of mother's milk quite closely. Dr. Ashby of Manchester for some time has been employing whey to dilute the milk. He published an account of his experience with it in the *Edinburgh Medical Journal* last April. He was not aware that Professor Monti had been advocating its use for several years past. The "Säugling's Milch" is pasteurised. Professor Monti is a firm believer in pasteurisation and is openly opposed to the sterilisation of milk. Pasteurisation or sterilisation—that is the question and bone of contention among the leading children's specialists. I have before me an abstract from an exceedingly interesting and valuable article on this subject by Professor Conn in the October *Popular Science Monthly.* He dwells at length on its application to the milk supply of cities. He says the Germans do not take kindly to pasteurisation. This is rather contrary to what I have found. Last September in Munich before the German Scientific Association several papers were read by Germans who warmly advocated its use. Professor Foster of Strassburg read a paper in Edinburgh in 1898 before the British Medical Association in favor of pasteurisation. For nearly two years a dairy in Strassburg has been furnishing pastuerised milk at a cost of about one half cent a bottle more than ordinary milk. The city will furnish pasteurised milk at four cents a liter instead of five cents, the price of the regular milk, for infants under one year when ordered by a physician. This is an example worthy of emulation. The dairies in Amsterdam have sold over a million liters of pasteurised milk annually since 1892. If I mistake not this precedes what Professor Conn describes as the "Copenhagen Experiment" by nearly two years.

A company has recently been formed in Manchester to meet the growing demand for wholesome and reliable milk. This is called the Manchester Pure Milk Supply Company and is similar to the Copenhagen company. They have a large model dairy in one of the suburban districts which is constructed and conducted on scientific principles. The cows unfortunately are not their own but a number of good farms are under contract to supply the milk. The farmers are carefully instructed as to the importance of cleanliness and it is to be hoped they do not follow the common and disgusting habit of moistening their hands with saliva before they commence to milk. All the cows are visited by a veterinary surgeon and tested with tuberculin at stated intervals. To avoid any risk of infection the health of the farmer's families and employees is carefully looked after and when infectious disease is present the milk is refused but the payments and wages are continued. When the milk arrives at the dairy it is filtered through sterilised gravel and muslin and then cooled by ice. It is not delivered in bottles but in specially constructed and sealed cans with dust proof faucets. The milk is not pasteurised nor sterilised except on special order and no modification is prepared for infants. The Walker Gorden Company have I am told a strong foothold in London but their methods are well known to American physicians and are somewhat in advance of the Manchester Pure Milk Supply Company.

H. L. K. SHAW.

Editorial

New York State Medical Society The ninety-fourth annual meeting of this society was one of the most largely attended gathering in recent years. The papers presented covered a wide range of subjects but unfortunately owing to lack of time did not receive the consideration in discussion to which they were entitled.

The innovations—the public session in the State capitol and the president's anniversary address at a regular session—met with general approval. The very complete discussion in regard to the State care of tuberculosis patients indicates the general character of the topics which a State society should especially consider, subjects not personal or local and not even exclusively medical, but in which every citizen is intensely concerned and the State seriously affected, both from the side of economy and of philanthropy. The people have a right to demand guidance and advice in such matters and the medical profession is justified in insisting that it should be allowed to demonstrate what can be accomplished when strictly scientific methods are applied to these problems It is hoped that as a result of this discussion the legislature will take some practical steps to carry out the recommendations made.

The clinical session at the new Albany Hopsital gave the members of the society an opportunity to inspect this well equipped hospital and to witness the results in the great variety of operations. The addresses on "Education and the Profession of Medicine" and "Rational Therapeutics versus Christian Science" by eminent educators, one in the university, the other in journalism, showed that there is need not only of thorough education of the physician but also of many of the general public, who delight in the mysterious and unknowable, especially when all the problems of the universe are reduced by hypothesis to the simplest equation.

THE PRESIDENT'S ADDRESS

The president's address on the "Clinical Laboratory in Modern Surgery" was a splendid exposition of the best modern views upon surgical methods and training. The surgeon of to-day is not the surgeon of emergencies alone but much more often of elective operations. As he determines what patients are suitable for proposed operations, he must in justice to them use every possible aid to determine that their condition would be sufficiently benefitted to warrant serious operative procedure. This necessitates thorough and painstaking clinical investigations of the blood, the secretions and the excretions. The recognition of obscure pathological conditions when possible, should not be deferred until after the incision has been made or left to the pathologist. Nor should any patient's life be subjected to avoidable risks in faulty operative technique. Infections are now recognized to play such an important role in the failures of surgical operations that every possible source of such danger should be avoided. It has been well said that genius is the faculty of taking infinite pains, and modern surgery, as the address indicated, frequently fails not so much in the major factors, as in the small and often apparently unimportant details. No place presents such opportunities for the study of the significance of infections and of the necessity for infinite care in their prevention as does the pathological and bacteriological laboratory. Surgery of to-day is not so much a question of mechanism as it is of technique with its constant watchfulness and care dependent upon thorough scientific research.

State Medicine

Edited by Harry Seymour Pearse, M. D.

Important Bills in the New York Legislature.*—Senate Bill No. 348. An Act "To Amend the Code of Civil Procedure, Relating to the Limitation of Actions for Malpractice."

This act amends the section relating to recovery of damages for libel, etc., by adding malpractice.

Senate Bill No. 362. An Act "Relating to the Establishment of Hospitals for Pulmonary Tuberculosis."

This is a section of the general city law, and changes the law by inserting "cities of the first class" instead of "a municipal corporation" having the right to establish such hospitals without the corporate limits.

Senate Bill No. 376. An Act "For the Protection of the Public Health, and to Prevent the Use of Certain Poisons in Snuff, Tobacco and Proprietary or Patent Medicines."

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*By courtesy of the Committee on Legislation of the Medical Society of the State of New York.

This act prohibits the selling of any medicine, tonic, snuff, tobacco, or hay fever remedy containing cocaine, and fixes a penalty.

Senate Bill No. 388. An Act "To Revise the Charter of the City of Buffalo, with Relation to the Protection of the Public Health."

This act provides that when rabies is present in the city or vicinity, the commissioner of health shall prescribe conditions under which dogs may be kept within the city, and provides for the destruction of dogs suffering from rabies, with penalties for violation.

Senate Bill No. 390. An Act "To Authorize the City of New York to Accept and Receive the Property of the Brooklyn Homœopathic Hospital of the City of Brooklyn."

This act provides that the city should accept at its discretion this Hospital and pay all the debts and liabilities of said Hospital, including the mortgage upon its real property, and such hospital and its schools may be maintained in the discretion of the city authorities as a homœopathic institution under the jurisdiction of the Commissioner of Public Charities.

Senate Bill No. 434. An Act "To Amend the State Charities Law, and to Incorporate therein other Statutes Relating to Charities."

This act relates to the licensing, rules and regulations of dispensaries, and the control of the placing out of destitute children and general provisions relating to charitable institutions.

Senate Bill No. 509. This act relates to visitation, inspection and supervision of institutions by the State Board of Charities, and includes all institutions of charitable or reformatory character, whether or not in receipt of public moneys.

Senate Bill No. 511. An Act "Relating to Corporations for the Prevention of Cruelty."

Every corporation existing or which shall hereafter be formed for the purpose of preventing cruelty to children shall be subject to the general supervision of the State Board of Charities in the same manner as charitable institutions.

Assembly Bill No. 129. An Act "To Amend an Act Entitled 'An Act to Revise the Laws Relating to Public Instruction Relative to Teaching Physiology, Hygiene and Narcotics.'"

This measure repeals the act relating to teaching of physiology, hygiene and narcotics in the public schools.

Assembly Bill No. 157. An Act "To Amend the Public Health Law in Relation to Pharmacy."

This act specifies the method of election of the State Board of Pharmacy, their duties, and those who are entitled to license.

Assembly Bill No. 423. An Act "Relating to the Board of Pharmacy and Registration of Pharmacists in Greater New York."

This act makes it unlawful for any person except a registered pharmacist to dispense physicians' prescriptions or to sell poisons.

Assembly Bill No. 429. An Act "To Establish a State Hospital in the Adirondacks or in some other Suitable Locality for the Treatment of Pulmonary Tuberculosis."

The sum of two hundred thousand dollars is appropriated for the purposes of this act.

Assembly Bill No. 629. An Act "To amend the Charter of Greater New York with Reference to the Sale of Lymph and Antitoxin."

This act provides that when the amount of lymph or antitoxin shall exceed the amount required, the Board of Health may sell such excess at public auction.

Assembly Bill No. 904. An Act "To Establish the New York State Hospital for the Care of Crippled and Deformed Children."

This act provides for the establishment of a hospital for the care of crippled and deformed children within the City of New York, and appropriates fifteen thousand dollars for the first year.

Medical News

Edited by H. Judson Lipes, M. D.

THE MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—Meeting held February 14, 1900, in Alumni Hall.

The following members were present: Drs. Blumer, Capron, Carroll, Classen, George, W. H., Happel, Jenkins, Lochner, Macdonald, MacFarlane, McCullough, Moore, C. H., Munson, Neuman, Richardson, Sautter, Stillman, Van Allen, Vander Veer, Ward, Wiltsie.

The meeting was called to order at 9 P. M., Dr. Van Allen in the chair.

1. Reading of the minutes of the last meeting.

It was moved by Dr. MacFarlane, and seconded by Dr. Stillman that as the minutes had been printed they should be adopted as printed. Carried.

2. No minutes of special meetings.
3. No reports of committees.
4. No applications for membership were received.
5. No motions or resolutions were presented.
6. Miscellaneous business.

Under this head a letter from the Hon. Chauncy M. Depew, and one from the Hon. Martin Glynn were read. The letters related to the resolutions made by Dr. Vander Veer at the last meeting, and were as follows:

HOUSE OF REPRESENTATIVES,
WASHINGTON, D. C., *January* 22, 1900.

DR. GEORGE BLUMER, Albany, N. Y.

MY DEAR SIR.—I have your letter of the 19th inst., citing two resolutions passed at a meeting of the Medical Society of the County of Albany on January 17th, 1900. One of these resolutions opposes the bill introduced by Senator Gallinger entitled, "A Bill for the Further Prevention of Cruelty to Animals in the District of Columbia," and the other indorses the bill introduced at the suggestion of Surgeon-General Sternberg having for its object an increase in the number of medical officers in the United States Army.

In reply allow me to say that I will be pleased to accede to your request in behalf of these matters, and in compliance with the wishes of the members of the Medical Society of the County of Albany I will be pleased to oppose the bill of Senator Gallinger when it reaches the House of Representatives, and will be glad to vote for the bill seeking to increase the number of regular medical officers of the United States Army.

Hoping that I will be able to carry out the wishes of the members of the Medical Society of the County of Albany in all matters as I am in this, I remain, with respect,

Sincerely yours,
MARTIN H. GLYNN.

UNITED STATES SENATE,
WASHINGTON, D. C., *January* 24, 1900.

GEO. BLUMER, Esq.,
Secretary, Medical Society of the County of Albany,
Albany, N. Y.

DEAR SIR:—I am in receipt of your letter and will give the matter my earnest attention.

Yours very truly,
CHAUNCEY M. DEPEW.

In connection with the letters Dr. MACDONALD remarked that he had received a letter from the Surgeon-General stating that as yet no separate bill relating to the increase in the Medical Corps of the Army had been introduced. The matter had been turned over to the Secretary of War and would be incorporated as part of the bill for the reorganization of the army.

Dr. VANDER VEER then called the attention of the Society to a bill recently introduced into both houses at Washington and referring to the employment of trained women nurses in the army.

The bill read as follows:

Section 1. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

That from and after the passage of this Act, women nurses in the proportion of not more than ten per cent of the number of sick and wounded in General and Post Hospitals of fifty (50) beds and upwards, shall be employed by, and constitute the Women's Nursing Service of, The Medical Department of the Army.

Sec. 2. That there shall be a Superintendent of Women Nurses in the Army, who shall be a woman graduated from a general hospital training school for nurses, having a course of instruction lasting not less than two years, and who shall be appointed by the Secretary of War.

That the salary of the Superintendent of Nurses shall be two thousand ($2,000) dollars per annum.

Sec. 3. That the Nurses in the service shall be graduates of general hospital training schools having courses of instruction lasting not less than two years; that they shall be appointed by the Surgeon-General of the Army under such regulations as may be approved by the Secretary of War; that they shall receive forty dollars per month when on duty within the limits of the United States, and fifty dollars per month when on duty outside of the limits of the United States. That a Chief Nurse may be appointed for every hospital where there are five or more nurses on duty; that the salary of a Chief Nurse shall be seventy-five dollars per month within the limits of the United States, and eighty-five dollars per month outside of the United States.

That, in addition to the salaries above mentioned, the Superintendent of Nurses, and each Nurse in the Woman's Nursing Service, shall be entitled to transportation and necessary expenses when traveling under proper orders; and provided, further, that Nurses and Chief Nurses shall be entitled to quarters, subsistence, laundry for uniforms, medical attendance, nursing and medicines during illness, and that they may be granted such leaves of absence without loss of pay as the Secretary of War may authorize.

Sec. 4. That the number of Nurses necessary for the immediate establishment of the Women's Nursing Service may, upon the passage of this Act, be appointed by the Surgeon-General.

Sec. 5. Provided that nothing in this bill shall be construed to prevent or to limit the power of the Secretary of War in time of war or of national disaster to avail himself of duly qualified Red Cross Nurses (termed "sisters") or of nurses of other worthy societies or associations.

Dr. Vander Veer thought that it would be proper for the Society to indorse this bill. He stated that women nurses had been employed in this city in the Ira Harris Military Hospital during the War of the Rebellion. There were those present he said who served as surgeons in the Spanish-American War and who could appreciate the need of women nurses. Dr. Vander Veer then proposed the following motion which was seconded by Dr. Ward:

Whereas, many of us from personal experience, or otherwise, believe this bill to be a proper and just one, and that we have confidence that the employment of trained female nurses in the military hospitals would result in great good, therefore,

Resolved, that we respectfully petition our United States Senators, and Representative in Congress, to give the subject their careful consideration, and if consistent with their views to urge the passage of the bill, and,

Resolved, that copies of our action, signed by the President and Secretary of the Society, be transmitted to our United States Senators, and Representative in Congress.

Dr. Ward remarked on seconding the motion that many of the members knew and regretted the fact that the Surgeon-General was more or less opposed to the bill. He thought that this was due to the fact that the Red Cross had rubbed him the wrong way early in the war. Perhaps there was fault on both sides. He had had no experience in the Spanish-American War, but he did not see how any man who had been in the Civil War and seen the wretched effects of male nurses, could oppose the employment of women. Whilst sorry to oppose the Surgeon-General in the matter he thought that the Society should support the bill.

Dr. Macdonald stated that he thought there was a disposition on the part of old army men to oppose the introduction of women nurses. He thought this arose from misunderstanding and their manner of training. He thought that the old methods of training had given fairly good results in time of peace. During the war the Hospital Corps had been recruited from medical students, members of the Salvation Army, and foreigners, and the results had been poor. He thought that women could be used as nurses with advantage at the large depots. At Fort MacPherson when he first went there, there were four female nurses and a sufficiently large corps of male orderlies of the kind above mentioned. He found that faithful service could not be expected from this class of men. On his second night in the hospital he had found four of the night orderlies asleep. Another was just going to bed and was removing the mosquito netting from a typhoid patient to cover himself. He thought that women trained nurses were a necessity if you wished fidelity of service. The army men who were brought into contact with the women nurses had begun to appreciate this. He had seen no case of infidelity to duty in a woman nurse. The objectors to the bill raised minor objections relating to transport, quarters and clothes. He found that the women nurses were willing to sleep under tents, eat the ordinary food and undergo the ordinary hardships. He thought they were of great service except on the firing line and in the immediate neighborhood of battlefields. He regretted that the appointment of the Chief Nurse was not placed in the hands of the Surgeon-General in the bill under discussion. He thought that the Surgeon-General had some cause to be aggrieved. It was not the nurses who went to the front who caused him annoyance, but certain ones who stayed in Washington and made constant trouble about imaginary grievances.

Dr. Vander Veer's motion was then put and carried unanimously.

The President read a telegram from Dr. Sabin stating his inability to be present on account of the floods.

7. Reading of papers.

Dr. **Ward** read his paper on the "Medical Complications of Gonorrhœa."

The President remarked that as the papers were on kindred subjects discussion would be deferred until after Dr. Sautter's paper.

Dr. **Sautter** then read his paper "The Treatment of Anterior Urethritis, Acute and Chronic," and exhibited an endoscope with a brush for applying solutions locally in the urethra.

The papers were declared open for discussion by the President.

Dr. **Sautter** in referring to a statement made in Dr. Ward's paper said that he had understood that gonorrhœa in the female usually started in the urethra, and asked for further information on the subject.

Dr. **Vander Veer** asked Dr. Sautter if the brush application was a new idea to which Dr. Sautter replied in the negative. Dr. Vander Veer stated that a similar instrument had been used for years in the form of a probe with cotton on it. In discussing the paper Dr. Vander Veer said that he thought this was the first time he had heard Dr. Ward read a paper acknowledging any kind of a germ. In speaking of gonorrhœal rheumatism Dr. Vander Veer said that he was under the impression that a man who had rheumatism and contracted gonorrhœa was particularly liable to a return of the rheumatic attack. He thought that a patient with a rheumatic history was more apt to have joint involvement than another man. He thought that colchicum was useful in treating some of these cases.

Regarding the gonorrhœal endocarditis and pericarditis he remembered well a case of these conditions in a woman who had been infected by her husband. She had died and a post mortem was made, the specimens being in the museum. Dr. Vander Veer said that he had been glad to hear Dr. Dr. Sautter's paper as he was anxious to hear the views of some of the younger men on treatment. He agreed with Dr. Sautter in his views regarding irrigation. We were more apt he thought to be called to treat the complications nowadays as so many patients were treated by druggists or treated themselves. Dr. Vander Veer thought that the alkaline treatment was of more value than Dr. Sautter was inclined to believe. He had seen many patients made much more comfortable by alkalies. The balsams were of value after the acute stages, but the kidneys must be watched.

Oil of santal wood especially should be given only in the chronic stages. He thought Taylor's limit of six weeks as the duration of the disease rather long; Bumstead used to get them well in three weeks. Very often the patient delays recovery by not doing as he is told. He had seen the pendulum of opinion swing back and forth several times as regards medication. They were using nitrate of silver twenty years ago and now had come back to it. He thought this drug of great value for abortive treatment and deep treatment in the later stages. The most troublesome cases in his experience were those with prostatorrhœa. He was of the impression that in the female, where the tubes or the cavity of the uterus had been invaded, the patient was never cured.

Dr. MACDONALD said that the chief purely medical complication of gonorrhœa so often became surgical that he felt tempted to speak on the subject. He spoke of treatment by fixation and counterirritation. He mentioned that adhesions often formed in these cases and that a considerable proportion went on to suppuration. He thought that Dr. Ward's statement that two per cent. of gonorrhœal patients developed rheumatism made the percentage rather high. On the other hand there was no more troublesome affection to treat,—they rarely recover. He thought the tendons suffered as much as the joints. Many men limped fifteen or twenty years after an attack. One comfort was that as the joint trouble appeared the urethral discharge disappeared. He could not understand how curing the urethral symptoms could effect the joints unless there was a constant flow of toxines from the urethra to the joints. He agreed with Dr. Sautter on the six weeks proposition; of the cases he had seen relatively few got well in three to four weeks, not many in six weeks. Many ran on three or four months. He had used the new silver preparations, as argonin and caseate of silver, but did not get satisfactory results. He got a temporary improvement quite often but the disease returned on discontinuing the remedy. He thought the same could be said of permangate of potash. When the discharge was like the white of an egg the permanganate should be stopped and sulphate of zinc substituted. He had also used at this stage a solution he had borrowed from the eye men consisting of

Tannin, ten grains to an ounce,
Borax, four to six grains to an ounce,

in camphor water.

Some cases seem never to be amenable to treatment and travel around from doctor to doctor. Some of these cases were aggravated by anxiety. If you could remove this they recovered. Absolute continence was also necessary. In some chronic cases he had found a solution of bichloride, 1:3000, to effect a cure. Ice packs should be used with it and the patient would generally require morphine. It set up a violent inflammation and acted, he thought, by changing the character of the inflammatory process.

Dr. JENKINS related a case of gonorrhœal rheumatism in which he had given almost everything without effect. Finally he gave quinine in five grain doses every four hours. The man was well in a few days.

Dr. NEUMAN called attention to a possible fallacy in testing the urine when a patient was under the balsam treatment. In these cases the nitric acid test gave a ring like an albumin ring, but differing from it in that it was soluble in alcohol.

The President called attention to a rare complication of gonorrhœa, viz., gonorrhœal iritis. It was a very hard disease to treat he said. The eye was often lost. There was one drug that seemed to do some good in the condition and that was the ammoniated tincture of guaiac.

Dr. SAUTTER had mentioned the case of the man with a fistula in the posterior portion of the urethra in which the posterior part recovered under balsams, while the anterior, which was not subjected to the flow of the urine, did not. Might this not have been due to the simple mechanical washing by the urine?

Dr. WARD said that no doubt the quinine treatment in gonorrhœal rheumatism was recognized, but he did not think that it was always as efficacious as Dr. Jenkin's case suggested. The bane of his life in the Albany Hospital was a case of gonorrhœal rheumatism that had been treated by Dr. Hun for three months with quinine. He had had the best results with rest in bed, quiet, the local application of cold, and the administration of alkalies. In his experience with the acute stages the good old Lafayette mixture was better than any irrigation. In answer to Dr. Sautter's question he thought that gonorrhœa in women certainly began at times in the vagina. No doubt it began as a urethritis at times.

Dr. SAUTTER stated that in Vienna Wertheim taught that the gonococcus was deposited in the vagina and migrated to the urethra. The vagina might be itself affected later. As regards the alkaline treatment he did not think that it relieved pain. The pain, he thought, was due to the distension of the inflamed urethral walls by the urine. He agreed with Dr. Ward as regards the efficacy of rest in bed. In Munich the students had a separate ward to themselves and were always put to bed when they had gonorrhœa. Posselt, who was in charge there, did not think that this rest in bed modified the disease much, but thought that it lessened the danger of complications.

A motion to adjourn was made by Dr. Ward and seconded by Dr. Vander Veer and was carried.

T. F. C. VAN ALLEN,
President.

GEORGE BLUMER,
Secretary.

International Congress of Medical Electrology and Radiology.— At the request of the French Society of Electrotherapy and Radiology, the International Congress of Medical Electrology and Radiology, the initiative of which it has taken, is connected with the International Congress of 1900.

A Commission, which is composed of Messrs. Weiss, Professor at the University of Paris, President; Apostoli and Oudin, Vice-Presidents; Doumer, Professor at the University of Lille, General Secretary; Moutier, Secretary; Boisseau du Rocher, Treasurer, and of Messrs. Bergonie, Professor at the University of Bordeaux; Bouchacourt, Branly, Professor at the Catholic Institute of Paris; Larat, Radiguet, Villemin, Surgeon of the Hospitals of Paris, has been asked to assure its organization. This Congress will take place in Paris, from the 27th of July to the 1st of August, 1900. All inquiries for further information must be forwarded to Prof. E. Doumer, General Secretary, 57 Rue Nicolas-Leblanc, Lille.

Book Reviews

A Manual of the Diagnosis and Treatment of the Diseases of the Eye. By EDWARD JACKSON, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic; formerly Chairman of Section on Ophthalmology of the American Medical Association; Member of the American Ophthalmological Society; Fellow and Ex-President of the American Academy of Medicine. 600 pages, 178 illustrations and 2 colored plates. W. B. Saunders, Philadelphia, 1900.

The name of the author is a sufficient guarantee of the excellence of the work and the profession is to be congratulated in having a book from the pen of so eminent a teacher and scholar. The writer is recognized as one of the best oculists in America and as having no peers in the science of refraction. He has incorporated his ideas in a compact volume in an interesting, clear and concise manner, showing much originality of thought and research. Like many writers of the day, he takes it for granted that the student has a basic knowledge of the gross and minute anatomy and physiology of the eye and plunges directly into the practical handling and treatment of the ocular diseases and errors of refraction.

His classification, in some instances, differs from those of the older writers, viz.: *insidious iritis* is designated as *uveitis* and *serous iritis* as *cyclitis*. In the chapter on sympathetic ophthalmia the statement is made that the sight of the exciting eye is lost, the chance of recovery of the sympathizing eye is much better if the exciting eye is promptly removed, There are still some authorities who will not accept this, but the writer has voiced the opinion of the more recent observers.

The lucid text and simplicity of expression of the chapter on diseases of the crystalline lens will carry the reader along with a sense of pleasure. He will also derive equal satisfaction from the pages on "pupillary reactions." The average text book on ophthalmology deals with this very important subject in a manner anything but comprehensible and the student must go to the works on the anatomy of the nervous system or physiology where he immediately becomes confused.

The chapters on refraction are unimpeachable and while the practitioner of ophthalmology could readily understand and appreciate Dr. Jackson's methods, the beginner might find it difficult; yet there is nothing that would be obscure to or beyond the average oculist and the subject is treated wholly from a practical standpoint. Like all exponents of what may be termed the "Philadelphia School of Refractionists," he considers "Skiascopy;" or, according to Thorington, "Retinoscopy," the only accurate and infallible method of estimating astigmatic errors. A difficult method to master, it is here placed before the student simply and intelligently.

The newer drugs are mentioned in relation to their therapeutic application: Protargol in diplobacillus conjunctivitis, purulent conjunctivitis and obstruction of the nasal duct; and Cassaripe in suppurating ulcer of the cornea as used by Chandler and Risley.

The bibliography at the end of each chapter is a valuable adjunct and furnishes the student with a broad field for study and reference.

On the whole the author has written an excellent and very practical working volume and one which we can heartily recommend.

H. S. P.

Operative Surgery. By JOSEPH D. BRYANT, M. D., Professor of the Principles and Practice of Surgery, Operative and Clinical Surgery, University and Bellevue Hospital Medical College; Visiting Surgeon to Bellevue and St. Vincent's Hospitals; Consulting Surgeon to the Hospital for Ruptured and Crippled, Woman's Hospital, and Manhattan State Hospital for the Insane; Fellow of the American Medical Association; former President of the New York Academy of Medicine; President of the New York State Medical Association, etc. Vol. I. General Principles, Anæsthetics, Antiseptics, Control of Hæmorrhage. Treatment of Operation Wounds, Ligature of Arteries. Operations on Veins, Capillaries, Nervous System, Tendons, Ligaments, Fasciæ, Muscles, Bursæ and Bones. Amputations, Deformities. Plastic Surgery. This volume contains seven hundred and forty-nine illustrations, fifty of which are colored. New York: D. Appleton & Company, 1899.

This is the third edition of Dr. Bryant's well-known work, although the fact is not stated upon the title page. Readers of the first edition, who were disappointed that such a promising text should have been marred by the printer, will be gratified that the author has seen fit to rescue his book, and has in the two succeeding editions not only remodelled but has enlarged and modernized it, so that now it represents the best thought upon operative surgery and takes rank among the most practical treatises upon the subject in the English language. The peculiar feature of the book which entitles it to this high praise is the fidelity with which the consecutive steps of operations are described from the primary anatomical considerations throughout the details of the technique.

The first three chapters, covering one hundred pages, treat of the paraphernalia and preparations for operations, including instruments, anæsthesia, the arrest of hæmorrhage and the management of operation wounds. These chapters constitute a general introduction which is terminated by a short consideration of emergencies, the precautions against them and the treatment of the more common accidents, as shock and air in the veins. As an essential requirement of operations, the author regards as the most important, "a knowledge of the results of the operation to be performed as modified by the patient's condition and the emergencies liable to occur."

Chapter IV is devoted to the ligature of arteries. After discussion of the general considerations, the operations for ligating the special arteries are described in detail. The method used by the author includes (1) the points accessible, (2) the contiguous anatomy and the "guides" (linear, muscular, bony, contiguous anatomical, pulsation and color of the vessels), (3) the methods, (4) the operation, (5) the results, (6) the dangers, and (7) the fallacies. Alexander's operation of ligating the vertebral for the relief of epilepsy is included, the permanent benefit in the cases operated being too slight to warrant its continuance.

Chapter V upon operations on veins and capillaries includes ligation, operations for varicose veins, venesection and transfusion. Chapter VI is an especially complete and accurate treatise upon operations on the nervous system. The author favors the removal of the bullet in gunshot wounds of the brain, and illustrates his simple and ingenious method of locating the site of counter-opening. The cases tabulated by him in 1888 make a distinct showing in favor of the removal, as do the sixty cases reported by Fowler, the latter having a mortality of sixteen per cent following extraction, and of fifty-nine per cent in the non-operated cases. In Chapter VII are comprised the operations on tendons, ligaments, fascias, muscles and bursæ. Chapter VIII includes operations on bones; Chapter IX, amputations; Chapter X, deformities, brisement forcé, spinal curvature, wry-neck and deformities of the extremities; the volume concluding with Chapter XII on plastic surgery.

Current Medical Literature

MEDICINE

Edited by Samuel B. Ward, M. D.

The Diagnosis of Tumor of the Lungs.— By Dr. HELLENDALL (*Zeit. für klin. Med., Bd. 37, Hft. 5 und 6*). The writer reports three cases of tumor of the lungs. The first case was one of six years' duration and had been for a long time considered one of pulmonary tuberculosis, and next as a case of heart disease. A positive diagnosis was finally made by aspiration of the tumor and examination of a few flocculi of tissue obtained. At autopsy the case was found to be one of primary round cell sarcoma of the lung. The second was one of rapid character. A few weeks after the removal of a fibro-myxo-sarcoma from one buttock, patient had what appeared to be a typical attack of lobar pneumonia, with crisis. More or less fever, however, followed the crisis and as signs persisted in the right lung the case was supposed to be one of post-pneumonic phthisis, though no tubercle bacilli were found. Aspiration of the lung was practiced and a few flocculi of tissue obtained and diagnosis of sarcoma made which was confirmed at autopsy. The third case was one treated at first for hemorrhagic pleurisy. Later, consolidation of the lung developed and aspiration was practiced. From the flocculi of tissue obtained a diagnosis of sarcoma was made. At autopsy the patient was found to have a primary carcinoma of the stomach with metastases to the pleura, ribs, peritoneum, gall bladder, urinary bladder and rectum. Authors have not heretofore considered aspiration of solid tumors of much value but the results of these cases lead the writer to strongly recommend it in suspected pulmonary tumors, for he believes that in most cases a few flocculi of the tumor substance can be obtained.

Intestinal Lithiasis.—MILIAN and CHEVALLIER in the *Gazette des Hopitaux* for November 18, 1899, gave a complete historical, clinical and pathological review of this interesting subject. They refer in their article to the calculi formed in the intestine itself from its secretions and not to intestinal calculi originating in other parts of the body In speaking of the etiology of the calculi they state that it is essentially a disease of middle life, the majority of the cases occurring between 40 and 50. Women are attacked about twice as often as men, and the disease occurs as a rule in individuals with a tendency to arthritic and intestinal disturbances. With regard to the symptoms they state that intestinal lithiasis never comes on as a primary disease. It is always preceded by disturbances of the alimentary tract, particularly by muco-membranous enteritis.

The symptoms of the lithiasis itself consist of intestinal disturbances in the form of constipation and of severe attacks of intestinal colic. The attacks of colic are accompanied by vomiting, hiccough and sensations of vertigo and disappear after the evacuation of the intestinal sand which characterizes the disease and which may or may not be mixed with actual stone. During these attacks the abdomen is generally swollen and sensitive to pressure, but there is not the exquisite sensitiveness, such as is seen in peritonitis or appendicitis. This tenderness is apt to occur over the colon. During the evacuation of the bowels preceding the stoppage of the pain, the patient has the sensation of passing large quantities of soil. Between the attacks the symptoms are those of muco-membranous enteritis.

The intestinal concretions are in the form of sand, gravel or actual stones. The sand is of a brownish or yellowish color and may attain to a considerable quantity; the gravel is generally in particles the size of pepper seeds. The stones can attain the size of a pigeon's egg or even that of a hen's egg. They do not show, except rarely, concentric layers like a gall stone. They are mainly made up of organic material and triple phosphates.

With regard to the pathogenesis of the condition it may be said that intestinal lithiasis is observed especially in neuro-arthritics; it is caused directly by chronic intestinal inflammation in the form of muco-membranous enteritis, the remains of typhoid fever or some other inflammatory lesion. This chronic inflammation is kept up by the improper habits of the patient, too rigid a vegetarian diet and habitual constipation. The accumulation of sand is favored by intestinal atony and constipation. With regard to the diagnosis the authors lay stress on the association of chronic colitis with painful and intestinal crises and the examination of the stools for sand. The treatment is dietetic and laxative. Potatoes and meat extractives should especially be avoided as they contain potash.

Strict Milk Diet in Diabetes Mellitus.—WINTERNITZ and STRASSER in the *Centralblatt für innere Medicin*, 1899, *No.* 45, called attention to the value of the milk diet in diabetes, a treatment recommended years ago by Donkin and advocated by Winternitz, who has repeatedly stated its great service in the different forms of diabetes. Their conclusions are:

1. A strict milk diet will, in a short time, often after forty-eight hours, render the majority of diabetics free from sugar or reduce most markedly the excretion of sugar.

2. This is true for those in early life who have usually a severe form of diabetes as well as those who are very adipose or where the diabetes follows injury or shock. Cases which by strict diabetic diet and after a Carlsbad cure have not been entirely free from sugar, show, after a strict milk diet, a further diminution or even complete disappearance of the sugar.

3. In diabetes associated with albuminuria and nephritis, the albuminuria diminishes and in some cases disappears shortly after the disappearance of the sugar.

4. In many cases by strict milk diet after disappearance or diminution of the glycosuria, aceton occurs in the urine or when previously present is increased.

5. In many cases, by the change from the milk cure to a mixed diet, the sugar which has entirely disappeared recurs in greater or less quantity. The renewal of the strict milk cure again induces a complete disappearance.

6. In the passage from a strict milk diet to a mixed diet, it has not yet been with certainty determined if green vegetables and cereals are not to be preferred to meats.

7. Some cases are entirely healed by the milk cure and remain well with a mixed diet containing an abundance of starches.

8. In most cases there is in the beginning a slight decrease in the body weight, but in a short time it remains stationary and even an increase in weight may follow.

The Effects of Influenza upon the Heart.—SANSOM, in the *International Medical Journal, November, 1899*, considers from his large personal experience this subject. An abnormal excitation of the heart occurs as a frequent sequel of influenza. It may be persistent for long periods or intermittent and accompanied by other symptoms of palpitation. It may occur with the initial infection or begin some weeks or months after the original attack. In the majority of the cases there was little or no discomfort, while in some the phenomena associated with Graves' disease were present. There was no evidence that in these cases there was any structural disease of the heart other than dilatation, and dilatation is comparatively rare. There was no relation between rate of acceleration and evidence of dilatation. The dilatation is due to an affection of the nervous mechanism. Irregularity of the heart is observed very commonly after influenza, but there is no sort of proportion between the degree of irregularity and the subjective symptoms of the patients. Therefore, the attention of the patient should be taken from his heart as much as possible. In post-influenzal Graves' disease there may be irregularity of the heart instead of rapidity or as well as rapidity. In some cases there is a disturbance of hearing or auditory vertigo and the removal of any reflex disturbance of the nasal auditory mechanism has been of value. In the gouty the symptoms have been serious, severe, cardiac pain, distress, and even heart failure. There may be an abnormal retardation of the heart's action, paroxysmal or continuous, after influenza. The rate has been as low as nineteen and the danger to life has been greater relatively than in tachycardia and arrhythmia. Pain was at times very severe, but the chief danger was from syncope. In some cases there may be a cardialgia similar to angina, but without high arterial tension. These cases were not fatal and the condition seemed to be a neuritis or a visceral neuralgia and not a true angina. They differ from the acute cases of simulated angina in the following particulars: (1) The severe pain is brought about or aggravated by very slight movements or exertion. (2) There is a peculiar "dead leaf" hue of the countenance and a more marked facies Hippocratica. (3) Though there is not persistent high arterial tension, the radial is found to become contracted and narrow during a heart attack.

NEUROLOGY

Edited by Henry Hun, M. D.

Investigations Upon the Electrical Excitability of the Corpora Quadrigemina.—Prus (*Wiener klin. Wochensch., No. 45, 1899,*) reviews the literature of experimental researches into the functions of the corpora quadrigemina, and publishes the results of investigations conducted by himself upon dogs. The induced current was employed and observations were made upon the motor phenomena, and the conditions of the blood pressure, respiration, secretion and the cerebral activities. Stimulation of the anterior quadrigemina induced tonic spasms, peculiar movements of the limbs as in walking or swimming, epileptic attacks, with movements of the head, ears, tail, eyes or iris, and frequently swallowing movements; secretion of saliva, sneezing and emotional states; respiration ceased during the continuance of the irritation, and afterward was slow, with deep inspiration; the blood pressure was elevated and the pulse rate was retarded. In order to exclude reflex action from these results Prus applied cocaine to the surface of the parts under examination, and found that stimulation of the anæsthetized structures failed to produce the changes in locomotion, the epileptic attacks, retardation of the respiration, and of the pulse rate, increase in blood pressure and secretion of saliva, sneezing and emotional results. There remain then, as functions of the anterior quadrigemina, tonic cramps, movements of the head, eyes, pupils, ears, and acts of swallowing.

Stimulation of the posterior qundrigemina was followed by clonic spasms, walking movements, dilatation of the pupils, acceleration of respiration and pulse, manifestations of terror, barking, lifting of the head, turning of the eyes to the opposite side, nystagmus and exophthalmos, increased blood pressure, and secretion of saliva, contractions of the cardia and epileptic attacks. After the application of cocaine the results of the stimulation were limited to clonic spasms, elevation of the head, turning of the eyes to the opposite side, dilatation of the pupils, exophthalmos, contractions of the cardia and barking.

The results of all information up to the present time show that (1) in the anterior quadrigemina exist motor centres, the principal effect of the irritation of which produce optic results, while the principal effects of irritation of the posterior quadrigemina are manifested in acoustic effects;

(2) in the anterior quadrigemina a center exists which under pathological conditions elicits tonic cramps, and in the posterior quadrigemina an analogous centre induces clonic spasms; (3) in the anterior quadrigemina are reflex paths for respiration, the vagus and the vasomotor nerves, and in the posterior besides these a centre for co-ordination of reflex movements and a centre for the formation of sounds. Clinical observations show that in disease of the quadrigemina, disturbances in the movements of the eyes, inco-ordination of muscle groups in walking and standing, tremors, dilatation of the pupils, exophthalmos and disturbances of sight and hearing appear. All these symptoms are explainable by the results of the experiments conducted by Prus.

Transitory Spinal Paralysis.—(*Zeit. f. klin. Med., Bd. 39, Hft. 1-2*). A complete recovery from an acute myelitis if it ever occurs is exceedingly rare. One finds in the literature several such cases reported, but in most of these cases there appears to be some doubt as to the correctness of the diagnosis. Peripheral neuritis is especially apt to be mistaken for acute myelitis.

KREWER reports two cases of a sudden paralysis involving both legs, the bladder and the rectum with increased patellar reflexes and ankle clonus. In one case there was complete loss of sensation, while in the other sensory disturbances were but slight. There were also painless clonic contractions in the paralyzed parts in both cases, but no trophic disturbances. In neither case were there any etiological factors that could be discovered, nor was there any fever. In both cases recovery was complete after a few weeks. The writer believes that the pathological process in these cases may be a minute apoplexia spinalis, an occlusion of a small vessel or capillary, or a secondary acute parenchymatous swelling of the cord. In the two cases he reports he is inclined to assume an occlusion of a small vessel as the most probable cause. The rapid establishment of a collateral circulation would explain the transitory character of the paralysis. In the two cases he reports he can assign no cause for the occlusion of the vessel in the cord. He insists upon the necessity of separating these cases from acute myelitis, and for that purpose proposes the term transitory spinal paralysis. He believes that there exists a well defined group of paralysis, which clinically resemble acute myelitis, and are characterized by sudden onset in perfect health with no assignable cause, and with absolutely no signs or symptoms that would indicate an inflammatory process.

Paræsthesia, which is rarely absent at the beginning of myelitis does not occur, nor are there any trophic disturbances. Clonic contractions occur in the paralysed legs, a phenomenon but very rarely seen in acute myelitis, and the all important point is the course of the disease which differs markedly from myelitis. Recurrences appear to occur in certain cases apparently associated with pregnancy. Treatment is supporting and symptomatic.

The "Toe Phenomenon" of Babinski.—In the *Gazette des Hopitaux* for *November 23, 1899*, CESTAN and LE SOURD discuss this interesting phenomenon and give the results of their examinations in a large number of cases in which they examined for this phenomenon. The phenomenon was originally described by Babinski in the following words: "On the healthy side the prick of the sole of the foot causes under normal circumstances a flexion of the thigh on the pelvis, of the leg upon the thigh, of the foot upon the leg and of the toes upon the metatarsus. On the paralyzed side a similar excitation gives rise also to a flexion of the thigh upon the pelvis, the leg upon the thigh and the foot upon the leg, but the toes instead of flexing execute a movement of extension upon the metatarsus." This phenomenon, observed first in cases of hemiplegia or of crural monoplegia, was observed later by Babinski in cases of meningo-encepalitis, partial epilepsy, cerebro-spinal meningitis, strychnine poisoning, spasmodic spinal paraplegia, transverse myelitis and of Pott's disease.

Babinski indicates the existence of a clinical connection between the toe phenomenon, the exaggeration of the tendon reflexes and spinal epilepsy, and he thinks without absolutely asserting it that the toe phenomenon can be the first and only sign indicative of a change in the pyramidal system. The researches of Babinski have been partly confirmed, but rejected by some, and the writers think that in the latter instance the technique of the test may have been improperly carried out. They give the following as the principal points in making the test: "The muscles of the foot and leg must be relaxed as completely as possible, and in order to obtain this result it is necessary to leave the patient in ignorance of the fact that the test is to be made and to make him close his eyes. The leg must be slightly flexed upon the thigh, the foot lying on the bed on its external edge and completely deprived of support, the limb being held by the experimenter round the ankle. As soon as the muscles appear to be sufficiently relaxed one proceeds to make the test. By means of a needle or a pin one practices then along the external edge of the foot scratchings, at first light, then stronger until movements of the big toe occur. If the reflex is normal the toes, especially the three last ones, flex rapidly; if the reflex is abnormal the toes, above all the big toe, extend themselves upon the metatarsus by a slow movement. The intensity of the excitation is not an indifferent matter; it is necessary to avoid too great excitation, which in certain ticklish subjects causes a quick pulling away of the foot, accompanied by marked voluntary movement of the toes, which render all analysis impossible.

The authors in their own experiments investigated a number of normal individuals and also individuals of various types of nervous disease. They come to the following conclusion:

1. The toe phenomenon is always pathological; it is never observed in a healthy individual.

2. The toe phenomenon depends on disturbances of the pyramidal tract.

3. In organic hemiplegia the sign of Babinski is extremely frequent, and permits one to distinguish between organic and hysterical hemiplegia as in the latter the sign never occurs.

4. In recent organic hemiplegia the toe phenomenon, by its early appearance while the tendon reflexes are normal or diminished, acquires considerable diagnostic importance.

5. In spasmodic paraplegias of spinal origin the toe phenomenon is extremely frequent. It presents consequently a diagnostic value superior to that of epileptoid trepidation, since this last can occur without spinal alteration, as for example in patients with joint lesions.

6. Finally, in certain cord affections (tabes, Friedreich's ataxia) the toe phenomenon is the only sign which permits one to suspect the existence of a lesion of the pyramidal tract.

Localization of Intra-Cranial Tumors. (*Brain, Autumn,* 1898).— At a discussion of the Neurological Society of London on this subject, Gunn alluded first to the fact of the very great frequency of optic neuritis in tumor, pointing out that in order of such frequency tumors of the cerebellum come first, then of the basal ganglia, then of the occipital, frontal and temporo-sphenoidal lobes. He considers that the circumstances which chiefly contribute to its onset and severity are rapid growth, increase of cerebro-spinal fluid, and basal meningitis, these accounting for its particular disposition to occur in cases of cerebellar tumor. It is now well known that a certain type of neuritis, in which there is development of a stellate figure at the macula resembling that seen in albuminuric retinitis, is almost invariably a sign of cerebellar growth. He thinks it quite possible that unilateral neuritis or unilateral excess of neuritis may help in the localization, though the mere presence of neuritis is of no localizing value. Briefly put, his view is that the farther forward a new growth is, the greater probability is there that the neuritis may be either unilateral or at least worse on the same side. Thus there seems more likelihood that a tumor of the right frontal lobe may cause a right-sided neuritis than an occipital tumor, and certainly than a cerebellar one. As another possibility he suggests that minor anatomical differences in the orbit and its contents may predispose, and propounds the idea, also worthy of investigation, that differences in the refraction of the eyes may cause a difference, real or apparent, in the degree of ophthalmoscopic change.

OPHTHALMOLOGY

Edited by C. M. Culver, M. D.

Epidemic of Trachoma in Berlin.—Dr. Paul Schultz, (*Berliner klinische Wochenschrift, 1 January, 1900.*) The author refers to his former article, in the same periodical, concerning the same epidemic, which article considered the source of the contagion in a public bath institution. He had treated thirty patients having to do with this epidemic. They were from twelve to twenty-six years of age. Those considered, who were not infected directly from the bath, had become infected from association with those whose contagion did have its source at the bath. Twenty-four were directly infected at the bath, before it was sought to be disinfected, three after its disinfection had been attempted and three had caught it from some of the twenty-seven just mentioned. The use of the bath has now been abandoned. He discusses trachoma generally; then as to whether it was genuine trachoma that had affected the cases cited. As in the case of other infectious diseases, so in trachoma, we must depend exclusively on the clinical symptoms. They alone determine the diagnosis. Bacteriologic examination cannot here assure the diagnosis, because we are not acquainted with the exciting agent. There are infectious conjunctivitides in which it is very hard to say whether they are trachomatous. This fact is conceded by the ablest of the *connoisseurs* in trachoma and daily experience proves the necessity of the concession. In the earliest of the cases considered in this article, it was doubtful if it were a question of genuine trachoma. Later, the characteristic symptoms of trachoma were present and the disease was combated, with some success, by treatment usually adapted for cure of trachoma.

Schultz thinks the less characteristic cases shall also be considered trachoma. Fuchs, of Vienna, holds that there are three forms, papillary, granular and mixed. As to the course of the less characteristic forms, they are easily relieved but not easily cured. Schultz diagnosticated trachoma, in the cases in question, only when the diagnosis was pretty certainly justified by the facts. His professional conscience would not let him do otherwise.

He thinks it pretty serious to render anybody, who has *not* trachoma, subject to the suspicion of having had it. A case-record was carefully kept of twenty-four of the cases; six withdrew from clinical observation. Nineteen of the twenty-four had only one eye affected. In ten of these nineteen, the fellow eye was later affected. In five cases, the disease affected both eyes from the start. Seventeen of the twenty-four were mild cases, the other seven, hard ones. In two cases there was multiple infiltration of the cornea, in two cases, pannus. Ulcer and destruction of the cornea existed in none of the cases. In only two were scars formed. In one of these the scar was in the upper *cul de sac* and the other scar was in the upper, palpebral conjunctiva. Thirteen of the twenty-four were cured, eleven were still under treatment at the time of writing. Nine of the thirteen who usually worked, were unfitted for work; the other four continued at work, of their own choice. The unfitness for work averaged a month and fourteen days. The patients who were pupils were kept out of school a month and twenty days, on the average. The decision as to when a patient was fit to resume work, is a part of the question as to when trachoma ceases to be contagious. As to this, opinions that have been empirically acquired, are all that are valid. The exact scientific proof, as to when trachoma ceases to be contagious, may first be realized when the exciter becomes known. Until then we must be content with the facts of experience and especially with the observation that by means of the secretion, and during the acute, inflammatory stage of the trachoma, the infection takes place.

All the patients under consideration were treated as out-patients. Prophylaxis consisted in ordering for each patient an entirely separate washing apparatus and towel, to sleep with nobody and especially to come daily for treatment and to act on the advice given. The treatment consisted, primarily, in squeezing out the granules. Except in a single case, in which the galvano-cautery was used successfully, to burn out the granules, the thumb nails were used for the expression.

Knapp's roller forceps and Kuhnt's expressor were not employed. The thumb nails have the advantage of being a living apparatus that one has always with him, the patient does not fear them as he does metal instruments, the pressure, with them, can be more readily modified and the granules that are almost concealed in the edges of the folds are more easily reached by them, while such granules may readily be missed with the forceps. When the principal part of the granules had thus been removed, wiping out of the conjunctiva with sublimat solutions and instillation of protargol followed. The author prefers the use of silver, in this connection, because he believes that the cauterization with copper sulphat causes scars. He used one-half per cent. of the sublimat, soaking in it a small bit of cotton and rubbing it over the lid's inner surface. The rubbing was made hard and continued, or weak and of short duration, according to the individual need. To so individualize is essential to success. Generally, Schultz rubs the conjunctiva, after cocainizing it, until it bleeds slightly. The rubbing was painful only the first few times. Later, the pain from it was very slight. The pain lasted, for each session, only as long as the rubbing. With copper, the pain is as great one session as another and lasts long after the direct application. The rubbing was done alternate days. The days when it was not done, protargol was instilled. He used a twenty per cent. solution of protargol in cold water. Instillations of this, like the rubbings, were done by the doctor. For use at home the patients were given a one per cent. solution of the sulphat of zinc. They were further directed to make applications of compresses wet in cold, running water. In cases in which the corneæ were affected and pannus developed, the rubbing was not employed ; the protargol was instilled. The treatment resulted satisfactorily. The protargol was used to combat the inflammation and concomitant secretion, the sublimat to remove the granules and hypertrophic proliferations. A primary requisite is a serviceable solution of protargol.

In the cases here noted, the acute stage of inflammatory and secretory appearances was, for the most part, finished in a week or two. In no one of these cases did argyriasis appear, although we know that it may do so after the prolonged use of protargol.

Hæmorrhage into Eyeball.—DR. HOWARD F. HANSELL, (*Ophthalmic Record, January, 1900.*) On opening an eye, immediately after its enucleation, the author found its contents to be mainly a clot of blood. The patient was a man forty-eight years of age, whose left eye had been injured when he was thirteen years old and had been blind from that time. Within the last few months before enucleation, that eye had had a series of inflammatory attacks, with ocular pain and headache. At such times the right eye sympathized to the extent that he could not use it with comfort; it also became congested and painful. The last attack occurred a week before the enucleation. It was accompanied by severe neuralgia and pronounced signs of inflammation. He then applied for treatment at the Jefferson Medical College Hospital. Visual acuity of right eye approximately normal, pupil responsive to variations of illumination, media clear and fundus healthy. The left eye was deeply injected, as in glaucoma; its cornea clear, anterior chamber almost annihilated, iris convex forward, pupil small and adherent in its circumference to the anteriorly dislocated and entirely opaque lens. The upper, inner section of the ciliary region was staphylomatous, the sclera at this point very thin and apparently ready to burst. Tension+2. Section was made through the equator of the globe; the vitreous chamber seemed to be entirely occupied by blood, to the exclusion of all clear vitreous humor. Macroscopic examination did not discover the source of the blood; its origin was probably rupture of a chorioidal vessel during the severe inflammatory attack of the previous week.

Euphthalmin: A New Mydriatic.—JAMES HINSHELWOOD of the Glasgow Eye Infirmary read a paper on this subject in the Ophthalmologic Section of the British Medical Association in August of this year, and his paper finds a place in the *Ophthalmic Review for November, 1899.* He has made numerous experiments with this new mydriatic, and in this article states results. His conclusions are:

(1) Two or three drops of the five per cent. solution of euphthalmin will dilate the pupil fully in from twenty to thirty minutes; (2) this dilatation may be considerably accelerated by the preliminary instillation of a drop of one per cent. solution of holocain; (3) there is produced a paresis of accommodation, variable in amount but always of a very transient character, passing off completely in from an hour and a half to two hours; (4) these is no discomfort or feeling of irritation produced by the instillation of the drug; (5) there is no injection of the conjunctival vessels, no tearing and no alteration of the cornea; (6) there is no elevation of ocular tension; (7) no toxic symptoms have ever been observed from its use; (8) the mydriasis disappears completely in from eight to twelve hours.

CLINICAL MICROSCOPY

Edited by Arthur W. Elting, M D.

The Origin of the Hæmoglobin and of the Red Blood Corpuscles.—By Dr. FERRANTE APORTI (*Cent. f. innere Med., January 13, 1900*). During the past four years primary anæmias have been treated at the Medical Clinic at Parma with intravenous injections of iron and arsenic. From clinical observations it was very apparent that iron increased only the hæmoglobin while arsenic increased only the red blood corpuscles.

The writer has performed a series of experiments upon dogs to confirm these observations. He endeavored to determine

1. How do the hæmoglobin and red blood corpuscles react when an animal is bled and fed on an iron free diet?

2. What influence do iron and arsenic have upon the regeneration of the blood in animals treated in the above manner?

He demonstrated that after moderate blood letting, up to the number of three or four, at intervals of a few days, when the animal is kept on an iron free diet, there will after each blood letting be a regeneration of the red blood corpuscles and of the hæmoglobin. In such a case he assumes that the hæmoglobin is regenerated from the iron deposited in the organs prior to the introduction of the iron free diet. If, however, the blood lettings are continued there comes a time when the red blood corpuscles will be somewhat regenerated, but there will be no regeneration of the hæmoglobin, due to the fact that there is no longer any available iron in the organs.

By a series of experiments he showed that if the red blood corpuscles and hæmoglobin are much reduced by repeated blood letting and arsenic is administered, the red blood corpuscles will regenerate rapidly, while the hæmoglobin will remain the same or increase but slightly. If now the arsenic be discontinued and iron substituted, the hæmoglobin increases most rapidly, while the red blood corpuscles remain practically the same.

He has also demonstrated that if inorganic preparations of iron are used the hæmoglobin rises rapidly, but there is no iron deposited in the tissues. If on the other hand organic iron compounds are used the hæmoglobin rises less rapidly, and a considerable amount of iron is deposited in the tissues.

He concludes:

1. There undoubtedly exists a certain independence between the formation of hæmoglobin and red blood corpuscles.
2. There are substances which influence only the formation of red blood corpuscles. Of these arsenic is one of the most important.
3. There are substances which influence chiefly, almost exclusively, the hæmoglobin formation, and of these iron is the most important.

The Pseudo-Chylous Forms of Ascites.—By DR. MICHELI and DR. MATTIROLO, (*Wien. klin. Woch.*, *January 18, 1900.*) The difference in the pathogenicity of the different forms of milky exudates in the serous cavities naturally points to the fact that different etiological factors must be concerned. To the original chylous form of ascites there was added in 1892 by Verdelli and others a new variety, the so-called mixed ascites. The milky cloudiness in the latter form is explained by the presence of chyle with a fatty degeneration of the cells. To these two there is to be added still a third form of opalescency which cannot be due to fat because it is present in such small quantity. These cases are not at all common, but they are not so uncommon as one would naturally suppose. By a superficial examination they are not to be distinguished from the forms containing fat, for the fluids in both cases have a yellowish white color and resemble milk. Both contain more or less formed elements, and the opalescency of both is not modified by filtration.

Quincke in 1882 called attention to the fact that there were milky exudates, the opalescency of which was due to the presence of numerous albuminous granules.

Various authors have described cases in which the contents of fat in the fluid vary from .12 to .67 per cent. According to Letulle there must be at least 1.5 per cent. of fat in the form of an emulsion to produce a milky cloudiness of the fluid. Thus, in the class of cases just mentioned the fat cannot explain the milky character of the exudate. It is not possible that the albuminous particles play much of a role in the production of the opalescency.

The writers report four cases of milky exudates which contained but a very small quantity of fat. In all of the cases the quantity of fat was less than one per cent. They found, however, present in the exudates of all these four cases a small quantity of lecithin varying from .15 to .25 per cent. By further experiment the writers showed that the addition of .15 of a gram of lecithin to 1000 c. c. m. of a serous exudate would give it a very distinct opalescency. They therefore feel justified in concluding that the opalescency in the cases reported by them, at least, was due to the presence of lecithin, and they believe that the milky exudates, in which the opalescency cannot be explained by the presence of fat, are due to the presence of lecithin.

Pepsin Secretion in Diseases of the Stomach.—By Dr. ROTH (*Zeit. für klin. Med.*, *Bd. 39*, *Hft. 1-2*). The secretion of pepsin in different diseases of the stomach has hitherto received but little attention. The reasons for this are in the first place the fact that the HCl. secretion is a far better indicator of the pathological condition, and furthermore because there has till recently, been no good method for the quantitative estimation of pepsin. The writer discusses in some detail the various methods hitherto used for the estimation of pepsin, especially the method advised by Hammerschlag. For his experiments the writer used the method introduced by Mett in 1889. The method consists in filling small glass tubes from one to two millemetres in diameter with egg albumen and coagulating it in thin tubes. They are then broken up into bits of two to three centimetres in length, and these are subjected to the action of the gastric juice to be tested, and the extent of the digestive action determined by the amount of the coagulated albumen which is digested out of the tube. Only rarely is there a parallelism between the HCl. and the pepsin. The writer found that most pepsin was secreted in irritative conditions of the stomach, as in ulcer and hypersecretion. In uncomplicated hyperacidity there is no special increase in the amount of pepsin secreted. In dilatation of the stomach there appeared to be a slight increase but this may be due to the retained gastric contents. The smallest amount of pepsin was secreted in processes associated with a destruction of the secreting elements, that is, in chronic gastritis, atrophy of the mucous membrane, and carcinoma. In the latter it is especially due to the accompanying catarrh of the stomach. There are, however, many cases of carcinoma of the stomach in which the pepsin secretion is normal. In certain nervous diseases there is a diminution of the pepsin secretion. The writer concludes:

1. That Mett's method is well suited for the quantitative estimation of pepsin in general practice.

2. To obtain reliable results one must always experiment under the same conditions, and with the same amount of free hydrochloric acid in the gastric juice.

3. The variations in the secretion of pepsin are normally as great as are those of HCl.

4. There are cases in which there is a greater secretion of pepsin than normal (hyper-pepsia).

5. The most pepsin is secreted in irritative conditions. The least pepsin is secreted in a trophy of the mucous membrane of the stomach in certain cases of carcinoma and in some nervous disturbances.

6. The pepsin estimations have but little diagnostic importance. They are, however, of value in indicating the treatment to be used.

The Origin of Urinary Casts.—By Dr. E. Von Zcyhlard (*Wien. klin. Woch., January 4, 1900*).

To Henle is given the credit for having first discovered urinary casts, although they were undoubtedly seen by earlier observers. Henle's observations were made in 1842. He observed only the so-called hyaline casts, and subsequent writers have devoted much attention to them. Henle believed because of certain reactions they manifested that the hyaline casts were composed of fibrin, and he called them fibrin casts. All the older writers accepted this view, and only rarely does one find in the older books any mention of the possibility of a different origin. The view that they were of a fibrinous character was first opposed by Oedmansen and Axel Key, who believed that the hyaline casts were partly a product of a secretory activity of the kidney epithelium, and were partly the result of homogeneously metamorphosed kidney epithelium.

Rovida energetically opposed the view that the hyaline casts were of a fibrinous character. Hyaline casts present many of the chemical reactions of fibrin but others are lacking. Bizzozero accepted Rovida's ideas that hyaline casts resulted from a secretory activity of the epithelium. After the discovery of Weigert's fibrin stain, a means seemed to be furnished of settling this question definitely. Weigert himself found that hyaline casts, except for minute portions of them, did not stain with his fibrin stain. O. Israel and Ernst came to the opposite conclusion: namely, that the great majority of hyaline casts were of the fibrinous character. Lubarsch ardently supported the view that hyaline casts originated from the cell protoplasm, either through a secretory activity or a transformation of the protoplasm.

With regard to the granular casts the writer believes these to be composed mainly of detritus, due mainly to degeneration of epithelial cells and leucocytes and red blood corpuscles. As for the origin of epithelial casts the writer believes that they are formed mainly from the desquamated epithelium of the collecting tubules, and opposes the view that the cells come from the convoluted tubules, and urges in support of this view the fact that the lumen of the Hemle's loop has a smaller calibre than the diameter of an epithelial cell of the convoluted tubule.

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Original Communications

STATE CARE OF TUBERCULOUS PATIENTS.*

I

REPORT OF THE COMMITTEE ON HYGIENE.

To the Medical Society of the State of New York:

Your Committee on Hygiene would respectfully report:

Directed by our sense of responsibility, by the logic of the situation, as well as by the resolution of the Society of last year, your Committee has given particular consideration to the subject of state sanatoria for the cure and prevention of consumption.

We think it expedient to trace the growing interest which this Society has taken in the subject of consumption, since the discovery of its infectious nature. The quickening influence of Koch's immortal discovery appears in this Society's transactions for 1891, the scientific event of the meeting of that year being a "Discussion on Tuberculosis," including the following communications:

"Its History," by H. R. Hopkins; "Its Pathology and Etiology," by Heneage Gibbs; "Tubercular Manifestations in the Upper Air Tract and Special Treatment," by Jno. O. Roe; "Treatment including Prophylaxis as Related to Climate," by Samuel B. Ward; "Treatment as Related to Therapeutics," by E. L. Shurly; "Inoculations with Professor Koch's Tuberculin," by A. Jacobi; "On Koch's Treatment in Mount Sinai and New York Polyclinic Hospitals," by H. N. Heineman; in 1892, "The Danger of Milk from Tuberculous Cows," by Edward F. Brush; in 1896, "Shall the State Undertake to Restrict the Spread of Tuberculosis," by Jno. L. Heffron. This paper concludes as follows:

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*The Report of the Committee on Hygiene, presented to the Medical Society of the State of New York, January 30, 1900; and the Discussion held in the Assembly Chamber of the State Capitol, Tuesday evening, January 30, 1900.

1. Tuberculosis is an infectious and curable disease, capable of restriction.

2. That the state should compel the registration of every case of tubercular disease.

3. That circulars of information as to the nature, communicability and sanitary care of tubercular disease should be sent to those afflicted with the disease, and to those attending them.

4. That instruction as to the nature of contagious and infectious diseases, and the practical methods of their control, should be given to all senior pupils in public grammar schools.

5. That all owners and trustees of places of public entertainment, including churches and schools, and all public carriers, should be required to prevent contamination of their halls and conveyances, and to disinfect them.

6. That the hopelessly ignorant, wilfully careless and vicious, afflicted with tuberculosis shoud be isolated in special hospitals provided by the state.

In 1897, "The Necessity of New Methods of Early Diagnosis in Tubercular Disease to Curative Treatment, with Remarks on Treatment," by J. B. Ransom; in 1898, "What Shall the State and County do for the Consumptive?" by Jno. H. Pryor; "The Hygienic Management of Diaries," by E. F. Brush; "The Municipal Control of Milk Supply in Cities and Villages," by W. H. Heath.

In 1899, "The Detection of Tubercular Infection in Second-hand Clothing," by William G. Bissell; "Relations of the State to the Consumptive from the Standpoint of Political Economy," by George W. Brush; "The Relation of the State to the Consumptive, with Special Reference to Prevention and State Care of the Incipient Consumptive," by Jno. H. Pryor.

The steadily developing interest in this important matter takes definite shape and precise and formal expression this year (1899) in the following resolutions, offered by Dr. Geo. W. Brush, and unanimously adopted:

"*Whereas,* It has been shown by the facts presented to this Society, and substantiated by statistics, that tuberculosis caused the death of more than 13,000 of the population in this state, and

Whereas, the researches of science and the results of experience prove this disease to be a communicable one, and one easily preventable by proper knowledge on the part of the people, and

Whereas, there are no hospitals for the proper treatment of this disease, either state or municipal; therefore

Resolved, that the Medical Society of the State of New York urges upon the Legislature of New York State speedy legislation for the establishment of sanatoria, where those afflicted with this disease may be treated, and of sanatoria in the suburbs of large cities, and

Resolved, that the Committee on Legislation of this Society be directed to urge the passage of some measure by the present Legislature looking toward the establishing of a state sanatorium,

Resolved, that these resolutions be printed and a copy sent to the Governor, and to each member of the Legislature now in session."

At the same session the Society adopted a resolution offered by Dr. Pryor, That the subject of state control for the prevention of tuberculosis be referred to the Committee on Hygiene.

Your Committee on Hygiene has the conviction that the principles involved in the question of the prevention of tuberculosis by the power and authority of the state are so plain, simple and recognized by all intelligent persons as to require neither argument nor discussion but only brief statement. The fundamental proposition is, that all states have the right, and all efficient states have the power to protect the lives and property of the people. The enormous loss of life and destruction of property from tuberculosis, human, bovine and animal, is the energizing fact which should call into action, give purpose, direction and test of this ability of the state to show its sovereignty. *Salus populi suprema lex.*

In advancing from general considerations to those of greater particularity, in supporting the recommendation of the Society for the establishment of state sanatoria for the treatment of cases of incipient consumption, we have the hopeful and comforting assurance that the practice is not visionary or experimental, but is sound and rational, and supported by the best judgment of the men of the widest experience, upon evidence which is absolutely demonstrative. And further, that this practice has the additional claim to professional confidence in that it rests upon the well known principles, early recognition, isolation, and disinfection—that invisible triad, which in the warfare against the communicable diseases has won those glorious victories, the pride and boast of preventive medicine, the brightest page in all medical history. And yet, still further, that the treatment used in these sanatoria, may calmly and confidently claim the attention of a sovereign state because of its ancient and honorable lineage, having come to us from Hippocrates, Aretaeus and Galen, with the approbation of the great minds of medicine of each century and of all countries, and because of its simplicity, naturalness and efficiency.

Sanatoria for the treatment of consumptives are to-day in successful operation in almost every civilized country of the world—Austria, Italy and Poland each has one; Hungary, Belgium, Scotland, Ireland and Holland each has two; Denmark has four; Norway has five; Switzerland has eight; Russia has eleven; France has twenty-one; England has twenty-two and Germany has forty-three.

The United States has thirty-three, distributed as follows: Alabama, two; Colorado, three; Illinois, three; Maryland, one; Massachusetts, four; New Mexico, four; New York, ten; North Carolina, two; Pennsylvania, four; and in Ontario there are two.

Sanatoria for consumptives are not an experiment. The hold which these institutions have upon professional and popular confidence, is the result of critical observation upon their work, for many years, more than a third of a century; not in one locality alone where singular environment not to be repeated elsewhere may have been the factor in treatment, but in many localities with wide variations as to altitude, humidity, temperature, sunshine and winds; not upon cases of consumption from a single race alone, but upon consumptives of many races; not upon patients coming from a selected social class, but rather upon cases from all classes, high and low, rich and poor, vicious and worthy, peasant, serf and nobility.

Again, it is to be noted that the growth of these sanatoria has been slow. Brehmer opened his in 1859. From small beginnings, by reason of successful work they have grown in proportions and increased in numbers, planted by the courage and faith of individuals, they have won the confidence of the medical profession, the philanthropist, the community and at length that of the government of the state.

Medical opinion is notedly conservative, the demonstration of the infectiousness, the communicability, the preventability of consumption was made nearly twenty years ago,—nearly the span of a generation has passed since that revolutionizing fact, and the revolution still tarries. The watchman from the lookout reports that signal fires are burning here and there upon various mountain peaks; but in the valleys and plains the people still sleep, and year by year the tolling bells continue to number the enormous death rate from consumption. The discoveries of Koch and his supporting followers, is a trumpet call to action in the most beneficent and inspiring enterprise that ever engaged the energy, wisdom and enthusiasm of man—the abolition of the plague, the pestilence of human consumption.

To whom does this call come? To every man whose mind and opportunity has permitted him intelligently to study the literature of medicine upon this subject, and whose character is such as to enable him to engage in forceful action. And who are they who will be found in opposition? All men who, refusing to accept the demonstrative labors of the clinicians, the bacteriologists and the pathologists hold that consumption is chiefly communicated by hereditary transmission capable of stepping over one or more generations; all men whose love of ease is structural, whose desire to be known as fair-minded keeps them from having effective convictions, if convictions demand action; who hold it safer to stop at opinions, because opinions may be so balanced as not to disturb conscience or interrupt repose; all impracticable men, who decline to consider or to discuss plans for the foundations of the house, the nature and proportions of its walls, until their peculiar ideas are accepted as to the color scheme for tinting the ceilings of the third story bedrooms; finally, all over-bred, thin blooded and burned-out men, whose courage, faith and effectiveness feebly but fitly expresses itself in the pessimistic protest, "Am I my brother's keeper?"

In conclusion, your Committee on Hygiene emphatically and unreservedly commends the subject of State Prevention of Consumption, as the highest and most sacred privilege and obligation of the state; that our increasing ability by means of bacteriological aid, to make more accurate and early diagnosis of consumption, makes the already proven efficiency of treatment in sanatoria hopeful beyond expectation, and worthy the confidence and liberal support of the state; that nature has, in a most generous measure, endowed this Empire State with those fortuitous conditions—virgin forests on foot hills and mountain sides, streams of pure water, extended uplifted and inspiring scenery, varieties of altitude with exposure to sun and with shelter from winds, all the provision of nature for nature's most beneficent work; this constitutes an occasion, an opportunity, a responsibility which may no longer be disregarded; this demands that the Medical Society of the State of New York shall speak to the people that they go forward.

We advise and recommend that this Society cease not from its efforts until the State of New York affords to its incipient consumptives, the beneficent and hopeful treatment of state sanatoria.

Respectfully submitted,

HENRY R. HOPKINS, *Chairman,*
J. M. MOSHER,
M. A. VEEDER,
H. L. ELSNER,
GEORGE SEYMOUR.

II

THE DUTY OF STATE AND MUNICIPALITY IN THE CARE OF PULMONARY TUBERCULOSIS AMONG THE POOR.

BY EDWARD O. OTIS, M. D.,
Boston, Mass.

That pulmonary tuberculosis is the most prevalent and destructive disease existing to-day is a fact proven by the mortality records of all countries and ever susceptible of proof from the yearly summary of deaths. Its mortality to the total mortality is as three to twenty-two, that is, it is the cause of about a seventh of all the deaths. It is almost universally present in all regions of the earth, independent of climate. It "goes almost everywhere that man goes and is worst where human beings are crowded together." Three-fourths of all its victims are between fifteen and seventy years of age, the most valuable portion of a man's life.

It is a contagious or comunicable disease and hence preventable.

It is curable; the most so in its inception; hence the supreme importance of early treatment.

It is a disease of slow progress both in its advance and retrogression, and hence expensive to care for and treat; in consequence the poor are practically helpless, without aid, to obtain such treatment as will afford them a fair opportunity of recovery, or proper care while they live, if curable.

The poor suffering from this disease are a constant menace to those immediately about them and the public, through their ignorance, carelessness and inability to properly dispose of the sputum by which the disease is communicated. The number of lives saved and restored to usefulness and remunerative occupations by proper treatment, as well as those preserved by the removal of the source of contagion will indirectly return a large, if not the entire, expense incurred in the treatment.

I think that all will agree with me in the truth of the above propositions.

On the grounds then of economy, prophylaxis, and humanity, treatment and care should be afforded the poor, suffering from consumption. The city and state have already assumed that it is their duty to provide treatment and care for the unfortunate poor, suffering from other diseases and defects. The latter, the state, has established insane asylums, institutions for the idiotic and feeble-minded, the dipsomaniacs, and inebriates, etc.; and the former, the city, affords, in its hospitals, treatment for all other diseases and injuries. There remains the enormously large class of consumptives for whom no adequate provision has been made; no general hospital can or ought to receive them in its wards on account of the possibility of infection. Those in the curable stage lose their chance of recovery for lack of proper treatment, and the incurable cases either have to go to the almshouse or die in wretched neglect.

The poor consumptive is equally as worthy as the poor person suffering from typhoid fever or appendicitis, for instance. It is not his fault or election that he has this terrible disease, but his misfortune; but while he sees his neighbor afflicted with other medical and surgical diseases, receiving the best of care and the most skillful medical and surgical attention, *he* dies in neglect, or is referred to the poorhouse. Why is this? Why is the public so tender and liberal towards every other kind of suffering and misfortune, and apparently so callous and indifferent towards the consumptive, whose suffering probably equals, if not exceeds that of any other malady? And why, moreover, is it so regardless of its own danger from this contagious disease? The reasons for this attitude, I think, are several: the very prevalence of the disease and the consequent familiarity with it; the idea still largely held that consumption is incurable from the first, and nothing can avert the inevitable end; the slowness of its progress, and the ability of its sufferers to keep about and exhibit to a degree the semblance of health until near the final denouement; ignorance still common of its communicability and the danger from the dried sputum.

The interval of the time between the infection and the development of the disease is often so long that the cause is forgotten when the effect appears. With the other contagious diseases the effect follows so closely upon the cause that the connection between them is evident. Moreover, it has not been until recently that we have investigated the subject of exposure to the disease, the old belief of inheritance having been accepted as a sufficient and satisfactory explanation of the cause.

That this point of view may be changed we must convince the public of the truth of the propositions enumerated at the beginning of this paper. Let me briefly repeat them:

1st. Consumption is the most prevalent disease of modern times.

2d. It is very curable in the early stages, and may be arrested in any stage.

3d. A certain proportion of consumptives will not safely dispose of their sputum, and hence endanger the health of the community.

4th. The hopeless cases among the poor have no decent treatment or care, and must either die in abject neglect or go to the almshouse.

When the public awakes to a vivid realization of the truth of the above facts it will demand municipal and state aid in the care of the consumptive and for the protection of the community, and ask that a portion of the private benefactions be applied to this object. A few suggestions as to some of the means we can employ in arousing the public to the point of action. before considering the best and most economical methods of providing this treatment and care for the consumptive, are submitted.

In the first place I would suggest that the crusade against consumption be made a popular one, even a fashionable one, if you will. In this respect follow the example of our European confreres. Let associations be formed similar to the admirable Pennsylvania Association for the Prevention of Tuberculosis, and have sections or local societies in various portions of the state; hold frequent public meetings with *laymen* of note and influence as sponsors and speakers; enlist the daily press, and have such meetings widelv reported; let frequent articles appear in the papers upon the importance and urgency of the problem. In England, as you know, the daily press was a potent factor in arousing the interest and enthusiasm of the people. Local societies sprang up all over that country and money was contributed for prevention, and the erection of sanatoria for the open-air treatment: and the work is now in full progress. Once the public is thoroughly aroused it will quickly respond, the fearful will act from motives of self-protection, and the philanthropist from humane considerations.

I will now consider the best methods to advocate for the suppression of this disease and the treatment and care of those afflicted with it. In the solution of this problem we have the example and experience of Europe to aid us, to which I shall refer later. Besides the educative efforts in the way of tracts and circulars by societies and boards of health regarding the danger from sputum and its avoidance; disinfection and renovation of abodes occupied by consumptives or in which a death from this disease has occurred; ordinances regarding the spitting nuisance in public conveyances and places of gathering; cuspidors conveniently placed in halls, shops, and wherever people may congregate; laws and ordinances regarding cattle meat and milk inspection; the free examination of sputum; besides all this most important field of effort, there remains the greater and absolutely essential complement to it, namely, provision for the treatment, care and isolation of the poor consumptive, a task far too enormous for private or even municipal effort, but in which the aid of the state must be invoked. Indeed assistance must be had from all three of these sources to accomplish this great undertaking.

Two sets of institutions in the writer's opinion will be required to best meet the requirements:

First. Consumptive hospitals in or near the cities for the reception of poor consumptives in all stages of the disease, erected and maintained by the municipality, as are now the city hospitals for other diseases. Undoubtedly, as with hospitals for other diseases there would be other such consumptive hospitals established and maintained by private charity. All the great London chest hospitals are so supported—but the initiative must come from the city, for the city or community has assumed it as its duty, as I have said, to care properly for its own sick poor.

Second. Several state sanatoria more favorably situated climatically for the application of the open-air treatment, and not too far distant from the city which would furnish the majority of its clientele. From the city consumptive hospitals the more hopeful cases could be later transferred to such institutions, such sanatoria receiving only the incipient cases of those offering a fair prospect of arrest.

By consumptive hospitals, I do not mean asylums or homes where those afflicted with disease can comfortably die, but a place where curative treatment can be offered, so far as the conditions of location in or near a city will allow. The arbitrary division of the disease into curable and incurable classes is by no means always possible; many so-called incipient cases are hopeless from the first, while some in the advanced stages exhibit surprising arrests; therefore, I repeat, *hospitals* offering opportunities for treatment. Undoubtedly a large number of the inmates of such hospitals would prove to be incurable, and if they were all such these institutions would a thousand times justify their existence from the standpoint of prevention and humanity; but as in the German sanitoria where all stages of the disease are represented, some would so improve, or have their disease arrested as to be able to resume work again. In Dr. Turban's sanitorium at Davos, Switzerland, of those in the third or advanced stage, twenty-three and six-tenths per cent. were absolutely or relatively cured, and seventeen per cent. of these were found to remain so when communicated with from one to seven years after leaving the sanatorium. Of course they had the exceptional advantage of the air of the Swiss altitudes, but fresh air is available everywhere. With many cases there would be no doubt as to which of the two classes of institutions they belonged before removing them from their homes. With others the decision could only be made after keeping them under observation for a time at the city institution.

The state sanatoria must, in the writer's opinion, be erected by state appropriation and at least partially maintained from the same source. A portion of the expense could be collected in some cases from the patient through his friends, or by private charity; or defrayed by the city or town from which he comes; this is practically the method pursued at the Rutland sanatorium in Massachusetts. Of course the entire maintenance could be provided for, by a *per capita* tax on the locality from which each patient comes, as suggested by the New York Board of Health, but, in the writer's opinion, a certain yearly appropriation should be made by the state if not directly for maintenance purposes, at least for investigations in bacteriology, pathology, and treatment of tuberculosis, which would not only indirectly benefit the state but the public generally. As a matter of fact the state and municipality have ultimately to provide for very many of its poor consumptives in its almshouses and other like institutions, and the expense now largely wasted by this unintelligent method, is probably as great, at least, as it would be in the proposed consumptive hospitals which not only offer an asylum, but treatment and many other advantages. The outlay, then, would by no means be an entirely new and extra one, but only in another and more economic direction. Moreover, by reducing the number of consumptives by this enlightened method—as the London consumptive hospitals have proved is the case—there would result a yearly saving of lives whose labor has a money value to the community.

From the standpoint, then, of economy, public protection, humanity and precedent in establishing institutions and hospitals for other diseases, there is every good and solid reason why the city and state should appropriate some of their funds for this urgent and beneficent purpose. Knowledge ever brings responsibility. We *know* through Koch's immortal discovery that tuberculosis is contagious. We are, therefore, responsible for the protection of the helpless and ignorant from its infection, and further we are responsible for the poor and homeless consumptive who, through the knowledge of its communicability is kept out of the general hospitals.

In the meantime, pending the moving of public opinion—always slow—towards this object, the expediency of setting apart wards in some of the general hospitals for the exclusive occupancy of consumptives is to be considered, as has been determined upon in some of the Paris hospitals.

As to the expense of maintenance in such hospitals and sanatoria it would probably be about the same, or perhaps a little more than in our general ones, from $350 to $450 per capita a year. At the Massachusetts State Sanatorium it is a little over $400 ($436.80). At a recent discussion in Philadelphia, various authorities estimated the cost as between three hundred and fifty and five hundred dollars per capita a year. In Germany it is about $275 a year.

As to the locations for the state sanatoria, others can speak from more intimate knowledge of the climatic and topographical conditions of the state than I can do. Sullivan county and the Adirondack region have already proved their eligibility, and undoubtedly favorable sites could be found in the western and central portions of the state. The main requisites are pure air, free from dust and smoke, protection from winds, and sunshine. "I can cure consumption in any climate where there is pure air," said Dettweiller, the great phthiso-therapeutist, to me once.

In a recent communication to one of the medical journals by a physician of this state*, the writer opposes state sanatoria because he says "competent authorities assert that a majority of the incipient cases recover when *properly* treated at home." Proper treatment cannot be obtained at home in the wretched environment of the poor; even the well-to-do cannot obtain such favorable conditions as are afforded by a sanatorium. The modern treatment of consumption is an exacting, long, and expensive one, demanding absolute control and constant supervision of the patient, together with such opportunities for constant exposure to fresh air, rest, and abundant and properly prepared food as only a sanatorium can best furnish. It is utterly hopeless to think of obtaining such conditions of treatment in the homes of the poor, which is an irrefutable argument for state sanatoria.

In locating the consumptive hospitals in or near the cities, some

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*"State Sanatoria for Consumption," *Medical Record*, December 9, 1899

opposition is to be expected from the neighboring land owners, both from the mistaken fear of contagion and the selfish one of a depreciation of real estate. We have had that experience in Boston, but the greater public good will overrule all this.

It will be encouraging to see for a moment what has and is being done in Europe in the establishment of sanatoria for poor consumptives. Hardly a single European country is without one or more consumptive hospital or sanatorium.

Germany takes the lead with from thirty to fifty. In Russia the Czar donated $300,000 and a large tract of land at Taitzi, about twenty-five miles from St. Petersburgh, for a sanatorium, and it is already established. Eight others for the poor are also in operation there. In Sweden the king has given over half a million dollars for the same purpose, and three sanatoria will soon be completed. In Norway a leper hospital near Moelde has been transformed into a consumptive one, and soon another of eighty beds will be constructed at Lysterfjord. Switzerland has four for the poor and others projected; Austria a free one of 300 beds; France has several proposed and under construction, and three of the Paris hospitals have set apart certain wards for the reception of phthisical patients, and 6,000,000 francs have been voted for the construction of new wards for the same purpose at other hospitals; Denmark, Holland, Belgium, Hungary, Bulgaria, Roumania and other countries have associations for the erection of sanatoria for poor consumptives, and Spain is said to be about to erect two. England has seventeen hospitals, homes and sanatoria for consumptives, free or partially free.

With the present activity in this direction it would seem that in a decade or two consumptive hospitals and sanatoria would be established all over Europe, just as leper houses existed in the middle ages; and it is no fancy to believe that as with leprosy—a disease closely allied to tuberculosis—this disease also may become eventually well nigh exterminated. Shall not we in America follow the example so nobly set us by Europe? Our need is as great and the remedy is plain. I feel sure that before many more years we shall see consumptive hospitals and sanatoria arising in all our large cities and in suitable localities in the state, and in consequence the present appalling mortality from this preventable disease rapidly and steadily diminishing. How soon this devoutly desired consummation shall be accomplished will depend largely upon the medical profession which must always take the initiative in matters of prophylaxis and public healty. It is the physician to whom we must look for the creation of an enlightened public sentiment, and it is a pity that so many of the profession are still apathetic upon this question. As Dr. Heron truly remarks, "For any one wilfully to hinder, even by his indifference to the subject, any reasonable attempt to lessen this scourge of our race is to take upon himself a very grave responsibility."

THE ESTABLISHMENT OF THE STATE CONSUMPTIVE HOSPITAL IN MASSACHUSETTS.

A young physician beginning practice in a portion of Boston largely inhabited by the poor and working people, was impressed with the number and helplessness of consumptives among his clientage. "If there was only some especial hospital," he said to himself, "where these poor sufferers could obtain proper care and treatment, for the general hospital will not receive them." This thought led to the idea of a state institution of this nature, and happening to have a brother in the legislature at that time, he discussed the matter with him, and the result of his discussion was a bill presented by the brother for the establishment of a "Hospital for Consumptives and Tubercular Patients," as it was called. This bill, introduced January 30, 1895, was referred to the committee upon "Public Health," who unanimously reported that it "ought not to pass." But the keen legislator did not allow his bill to die in this way; through his exertions the report was negatived, and the bill referred to the committee upon finance. At a hearing of this committee, Dr. Knight and others appeared in its favor, and impressed with the need of such a hospital, the committee reported unanimously for it and for an appropriation of $150,000. On May 28, it was read a second time and ordered to a third reading, and finally enacted on June 5, 1895. In the Senate, the committee on the treasury, to which it was referred, recommended that it be left to the next legislature, and this recommendation was adopted. Subsequently at the instance of Senator Wm. H. McMorrow, who, by the irony of fate, afterwards died himself of consumption, the bill was reconsiderd and passed by a majority of two votes.

According to its provisions a board of five trustees was appointed by the Governor to select a location, build the hospital, and take charge of it. A circular letter of inquiry was sent to all the registered physicians in the state inviting their opinion as to the most eligible location. Rutland, 1,600 feet above sea-level and at almost the geographical centre of the state, was finally selected and the hospital built, costing with the land somewhat more than the appropriation, the deficit being made good by a subsequent legislature. On October 1, 1898, the hospital was open for the reception of patients, and in the following February it was full—200 beds. There was nothing in the act establishing the hospital defining the purpose of the institution, as to what class of cases should be received. After careful consideration the trustees decided that only those in the early stages of the disease, or who gave promise of arrest or cure should be admitted. It was considered more peculiarly the province of the cities and towns to provide consumptive hospitals—such as have been described in this paper—for the reception of all stages of the disease. The medical management is in the hands of two paid visiting physicians, one a homœopathist and the other a general practitioner, who reside in Boston—fifty or more miles distant—and make weekly visits to the hospital. There are also two house physicians and a superintendent, also a physician who has charge of the administrative details of the hospital, and is the treasurer. Patients are admitted only upon the recommendation of the visiting physicians, and apply either at their office in Boston or at the hospital. They can choose the school of practice under which they desire to be treated. Graduate nurses only are employed to whom a post-graduate course is given in the special nursing of tuberculous patients.

Of the results of the first year's work, Dr. Bowditch will speak.

III

REMARKS UPON THE WORK ACCOMPLISHED AT THE STATE HOSPITAL FOR CONSUMPTIVES AT RUTLAND, MASS.

By VINCENT Y. BOWDITCH, M. D.,
Boston, Mass.

Mr. President and Members of the New York State Medical Society: It is with the greatest pleasure that I propose to tell you to-night of something of the work accomplished in the first year of the Rutland State Hospital for Consumptives. Dr. Otis has given you the history of the origin of the hospital or sanatorium, as we prefer to call it, and I trust the result of my experience there as one of the attending physicians may be of service to you in your efforts to establish a similar institution in this State. I must refer you to the third annual report for the full statistics. I can give you, of course, only the results of the cases coming under my personal supervision amounting to little more than one-half of the whole number of patients in the hospital. Patients were first admitted early in October, 1898, and the following tables will give the chief facts of what was accomplished up to October 1, 1899.

One important fact must be remembered. At the outset patients were admitted in a much more advanced state of disease than is the case now when the great number of applications from all parts of the State justifies us in following the expressed wish of the trustees that only the really incipient cases, or else those in which there is a reasonable hope of at least decided improvement, shall be admitted. In consequence of this decision we have excellent reasons for believing that even better results can be shown at the end of the second year than in the first.

The number of patients admitted to my service previous to October 1, 1899, is	212
Number re-admitted,	2
Total number of admissions,	214
Number discharged during the year up to October 1, 1899	126
Number still under treatment at the hospital October 1, 1899	88
	214
Of the 126 patients discharged, the number who left under two weeks and are therefore not considered in the results, is	11
The number of patients who remained more than two weeks, and whose cases are considered in the results, is	115
Of these, one proved to be a case of bronchitis only.	
Of the remainder (114), the number in whom the disease is recorded as "arrested" is	35
Number "much improved,"	37
Number "improved" (including one case of tubercular disease of the bladder without apparent pulmonary disease),	17
Number "not improved,"	24
Number "well" (bronchitis),	1
Number who died in the hospital,	1

Synopsis of Arrested Cases

Of these, the number having bacilli in their sputa previous to or after entrance is	20
Number of cases without sputa, on whom the tuberculin test was tried with positive results,	2
Number of cases having undoubted symptoms of pulmonary disease, but not showing bacilli in the sputa (tuberculin test not used)	9
Number of cases having very suspicious symptoms, without definite signs in the chest (tuberculin test not used),	4
	35

Conditions upon Entrance of Cases discharged as "Arrested."

Incipient cases, with slight signs in one or both lungs,	27
Cases with signs somewhat advanced in one or both lungs,	8
	35

Average stay in the hospital of the "arrested" cases,	4 months
Maximum stay in the hospital of the "arrested" cases,	10 months
Minimum stay in the hospital of the "arrested" cases,	6 weeks
Average gain in weight of the 35 "arrested" cases,	6 weeks
The largest gain in weight by any one of these "arrested" cases was	45 pounds
Length of stay at the hospital of this patient was	6 months

Incidentally, it may be mentioned that this case gave a history of cough for over six months previous to entrance, great loss of flesh and strength with signs of disease in the tops of both lungs, and that all outward symptoms disappeared at least two months before discharge, and she has remained in the same condition ever since.

Average stay in the hospital of the total number discharged before October 1, 1899, and whose cases are considered in the report (115),	4 months
Average stay in the hospital of those "much improved,"	4 months

It will be seen from these tables that all of the patients discharged except two had pulmonary tubercular disease, the exceptions being one of bronchitis and one of tubercular disease of the bladder only.

	Per Cent.
The percentage of "arrested cases" of pulmonary disease is	30.97
The percentage of cases "much improved" The percentage of those "improved" } together,	46.10
The percentage of cases "not improved,"	21.23
The percentage of cases discharged "well" (bronchitis only),	.85
The percentage of cases who died in the hospital (1),*	.85

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* It should be mentioned that this case was one of somewhat advanced phthisis with hemorrhagic tendency. After a stay of several months he had so greatly improved that he had planned to keep a hen farm in the country. After an absence of a day or two from the hospital, when returning he received a sharp blow in the chest by the sudden stopping of a train, which was followed immediately by a very severe hemorrhage, from which he never rallied.

These conclusions have been reached after careful examinations of the patients, both as to the general history previously and the physical condition at time of entrance.

The chief point of interest in these statistics is, of course, the number of "arrested cases." As on previous occasions I must give a word of explanation for the use of this term To me it has been the simplest method of grouping under one head those cases in which all outward symptoms of disease have disappeared. I have not felt justified in using the term "cured" until after the lapse of years no return of the abnormal symptoms has been noticed. In this nomenclature I know I differ from many of my colleagues for whose opinions I have the highest respect, but it has thus far proved to me the most satisfactory method.

The results have been most gratifying to me, especially so after the strong doubts and misgivings I felt at the outset as to whether we could induce intelligent, often refined people to enter the open wards with their lack of personal privacy. All doubt has been dispelled on that score however. It has been a pleasure and inspiration to see the almost universal philosophy and good cheer which pervades the institution at all times. It is almost needless, in our present knowledge of sanatorium treatment, to say that such results cannot be accomplished by attempting to treat patients in their own homes except in rare cases. The somewhat military discipline of any institution is a favorable factor in the treatment. The patients submit to rules of hygiene which it is almost impossible to bring about by other methods, especially in the matter of fresh air. Even if the patient himself is willing at his home to submit to constant life with the windows open, a sympathetic family is almost certain to defeat the plan in one or more of its details and only partial success or failure is the result.

Judging from our first year's experience at Rutland the following suggestions will possibly be of service.

At the very outset the fact should be impressed on everyone that the expense of maintaining a sanatorium of this nature is necessarily larger than that for a hospital for the hopelessly ill or even for patients with acute diseases. The ravenous appetites which are the natural result of exercise and life in the open air require a large amount of substantial even if plain food. Milk should be supplied *ad libitum;* eggs given freely. Both of these articles involve a large outlay but are essential in any such institution. I mention this fact in consequence of our own experience when criticism of the expenditure was first made. There are, however, few I think, who, upon reflection will not see the necessity for such an outlay if success is to be attained.

In every sanatorium the fact that amusement for the patients is a necessary part of the treatment,should be kept in mind. At Rutland, a large hall is about to be erected for this purpose to supply a great want felt during the past fifteen months, and no sanatorium should be built without proper regard to this feature of the treatment.

Recent efforts have been made in the West to establish in connection with sanatoria a system by which patients can have light occupation which without interfering with their hygenic treatment may give them a means of support and at the same time a source of amusement so essential to their welfare. This idea is well worthy of consideration in our state institutions and the future will show us how far we can adopt similar methods. I offer these suggestions although coming more, perhaps, under the administrative than the medical department. The two are, however, so closely interwoven that without a knowledge of both kinds we cannot accomplish the best results and I would gladly help you by the inevitable mistakes made in any new experiment such as this now under consideration, viz.: the state care of the consumptive poor.

In this paper I have touched very lightly upon the details of treatment as pursued at Rutland and in other sanatoria. So much has been written upon this subject in the last few years that it is all an old story to most of us and its repetition unnecessary at such a time as this. My own experience at the Sharon Sanitarium, a small institution established in 1891 within eighteen miles of Boston and only 400 feet above sea level, has been already told to the profession, and the results of the first year's work at Rutland have recently been given to the Boston Society of Medical Improvement and will soon appear in the *Boston Medical and Surgical Journal* It is of course much too early to give proofs of the lasting effects upon individual cases of the sanatorium treatment at Rutland and yet speaking from my own experience at the Sharon Sanitarium in which a gratifyingly large percentage of those who were discharged as "arrested cases" have retained their health over an interval of seven years, I see no reason why similar results should not be shown in future years in the larger institution. The astonishing growth of interest among the profession and laity in the subject during the past five years is one of the most hopeful signs for the future to those of us who have long felt that the sanatorium treatment of phthisis for incipient cases offers far more hope of cure for the majority of people than any other.

We feel a justifiable pride, I think, in the fact that Massachusetts has been the first to build a state hospital of this nature and we greet with enthusiasm the earnest efforts of our New York brethren to establish similar ones in this state. To my mind one of the greatest benefits to be derived from the establishment of these sanatoria is the educational effect upon the community at large. This is being continually brought home to those who have dealings with these institutions. The patients are impressed from their experience of the value of fresh air, good food and cleanliness and they preach this gospel to their families and friends. This cannot fail to have its good results and I believe most firmly that this movement which is now so rapidly growing in public favor is sure to take a great part in the realm of preventive medicine and that future generations will show by the decrease in mortality from tubercular disease the wisdom of the methods now being so widely taught

We must remember this however. In the sudden and rapid growth of an idea which has been met with stolid indifference or even open opposition for many years there is always danger of an excess of enthusiasm which is sure to meet with a reaction if not kept in check. There is an unfortunate tendency to magnify results in anything which has caught the popular fancy. We have to beware of the sensational press lest their glaring statements give false impressions. In our justifiable enthusiasm for the establishment of sanatoria for incipient cases and hospitals for the hopelessly ill, do not let us give the impression that a panacea has yet been found for the cure of tubercular disease. No such claim can be made, but those of us who have watched the steady and sure growth of the idea since Brehmer first gave to the medical world his results at Goerbersdorf, feel that a grand step in the right direction has been made and that with it comes the blessed hope for the future that consumption may one day cease to be what it now is, the greatest scourge of the human race.

Allow me to thank you most warmly for the honor of addressing you to-night and to wish you most heartily success in your present endeavors.

IV

SOME RESULTS OF THE CLIMATIC AND SANATORIUM TREATMENT OF TUBERCULOSIS IN THE ADIRONDACKS.

By E. R. BALDWIN, M. D.,
Saranac Lake, N. Y.

In no place throughout America has the experiment of a people's sanatorium for consumptives been carried on longer than at Saranac Lake, where, by means of the zeal and personal devotion of its founder, Dr. Edward L. Trudeau, the Adirondack Cottage Sanatorium has been in operation fifteen years. In other words, much the same thing which this state is considering for the relief of the consumptive has been done for the past fifteen years, and the results obtained and their permanency would seem of great value in guiding the efforts of our legislators in dealing with this all-important problem.

I would that it were possible for the founder of this institution to be here in person so that an adequate idea might be given of the disheartening struggle through which he passed during the first five years of its existence. As one of its former patients and intimately acquainted with Dr. Trudeau, it is my privilege to represent him here, and with his permission to offer the results of his experience in trying to aid the tuberculous individual with small means.

The discouragements were great at first, and he has remarked to me that he seriously considered the abandonment of the effort at the end of five years. Nearly all the two hundred or more patients received during that period were advanced beyond reasonable hope of recovery, and the prevailing prejudice against cold weather for consumptives, and the systematic open air method of treatment, were overcome only by patient waiting for results. It was difficult to persuade physicians and patients that an Adirondack winter could be beneficial, and that the consumptive could live out-of-doors in so rigorous a climate without danger.

The forty-two patients reported as apparently cured during that period must have seemed a slight return to the generous laymen whose friendship for Dr. Trudeau impelled them, no doubt, to continue the financial support of the enterprise, quite as much as did their faith in anything but its life-prolonging usefulness. Its growth nevertheless continued, and it gained in reputation. The late Dr. A. L. Loomis examined and sent nearly all the earlier patients to the institution, which owed much to his endorsement and influence.

Objections to the close association of consumptives were happily overcome by constructing a village of isolated cottages containing separate rooms for patients, thereby rendering it possible to have congenial companions, with privacy and ample ventilation.

The infectious nature of tuberculosis had but recently been announced at the time the Sanatorium was founded, and was for several years ignored by the mass of the medical profession, while belief in the inheritance of the disease prevailed almost universally. So deeply rooted was this idea, and such utter hopelessness filled the minds of those without the means to remove to a favorable climate and live without labor, that the early stages of the disease were, and are to-day, shamefully allowed to pass on to the incurable ones, by patient or physician or both, without any rational attempt being made to cure it. The friends of those who have been sent home well from the Sanatorium often refuse to believe that they had the "real consumption." When a patient relapses from carelessness or the necessary hardships of an unhealthy occupation and climate, his friends are confirmed in the belief that he never was cured. Notwithstanding these things, the attitude of hopefulness is gradually spreading, and the use of the microscope and other newer methods in diagnosis, together with greater care in older methods, is seen to be bearing fruit by an increasing number of early cases seeking admission. The doctor who is indifferent or does not recognize tuberculosis until written plainly on the face of the patient is steadily disappearing. It is to be hoped that the responsibility in this matter will rest no longer upon the physician, but entirely upon the individual, or the State, who should educate him.

The figures which follow show very plainly that *early diagnosis* and treatment is the keynote to the success that has been attained in the cure of tuberculosis.

What are the actual results, immediate and ultimate, of this attempt to save working people by placing an opportunity within their means? What permanent results have been accomplished that warrant the sacrifice? These are the questions that our legislators may be expected to ask. In the attempt to answer these I have made great efforts to trace the patients that have been discharged during the past fifteen years, and ascertain their condition and occupation. It need hardly be mentioned that this has been an arduous and difficult task, for so many have changed their residences in search of new positions and occupations, or for health. I am much indebted to the labors of the clerk and resident physician, Dr. C. C. Trembley, for the laborious work of searching the records.

During the fifteen years there were 1,200 patients cared for, exactly three-fourths of whom were recorded as advanced in the disease, leaving only one-fourth that were really in the incipient stage. It is gratifying to add, however, that during the last two years one-third of the new patients have been incipient cases. Of the whole number,—

277, or 23 per cent. were discharged apparently cured.

669, or 56 per cent. were discharged with the disease arrested or much improved

230, or 19 per cent. were discharged in stationary or unimproved condition.

24, or 2 per cent. died at the institution.

It is important to define the terms "apparently cured" and "arrested," as used in the Sanatorium records, and I quote the definitions employed by Dr. Trudeau from the first.

"*Apparently cured.* Cases in which the rational signs of phthisis and the bacilli in the expectoration have been absent for at least three months or who have no expectoration at all; any abnormal physical signs remaining being interpreted as indicative of a healed lesion."

"*Arrested.* Cases in which cough, expectoration, and bacilli are still present, but in which all constitutional disturbance has disappeared for several months; the physical signs being interpreted as indicative of a retrogressive or arrested process."

Starting with the 1,176 patients discharged alive, we have traced more than one-half, and find one-fourth, or 302, alive at present, the majority of these being well, as stated by actual reports from them. Selecting those not heard from, who we have reason to think are now *absolutely without symptoms* of the disease, there are 300 either known to be, or for good reason believed to be, perfectly well. This proportion, one-fourth of the whole number, covers the *entire fifteen years,* and the per cent., of course, improves each year as more early cases are admitted.

It was found that sixty-eight per cent. of the incipient class were discharged "apparently cured," while only eleven per cent. of advanced cases recovered. It should also be noted that there are 200 either known to be, or believed to be. living, who still have a cough and expectoration, being otherwise well—or have become chronic invalids. It must sadly be confessed that all the remainder are either known to be, or believed to be, dead. (Experience at present unfortunately shows that only one out of every five or six applicants for admission is either incipient or favorable for recovery.)

Figures cannot convey to the mind another item of importance to be reckoned in the good accomplished by a sanatorium for tuberculosis; namely, the lives saved from infection by the removal of these consumptives from their homes, and their education in hygienic living so that they may avoid infection and disseminate their knowledge to others when they return.

As to the permanency of the recoveries, many things must be considered, but out of 241 perfect cures recorded up to 1898, 215, or twenty-two per cent. of all those discharged up to that time, are known to be, or believed to be, perfectly well at present; 141 are known to be absolutely well and the remaining seventy-four have not been traced. A period of two years has been in our experience a fair test of permanency, but the fact is clearly shown that it depends upon the occupation, habits, intelligence and vicissitudes of life of the individual rather than upon an inherent tendency of the disease to relapse when so long healed. Several have died of, or had other diseases to cause relapse, while not a few completed their recovery after leaving the Sanatorium.

Few of the patients have remained in the Sanatorium on an average longer than six or eight months, and one-third of them three months or less. Their stay is limited by the rule of the institution to one year, and no doubt the results would be better if more could stay the full time. But few have been able to do so, though the charge is but five dollars ($5.00) a week.

The patients are drawn chiefly from a fairly intelligent class of people. As examples, clerks, mechanics, salesmen, bookkeepers, stenographers, teachers, nurses, are represented in the order of their frequency. Their slender means are but too soon exhausted, and I am glad to say that the Sanatorium, through its benefactors, has often aided anxious and dispairing hearts when it alone stood between them and lingering illness and death.

The administration expenses have been so slight that the cost of maintenance has been but seven dollars ($7.00) a week, Dr. Trudeau, who personally directs its affairs, receiving no salary for his services. Many luxuries are thereby enjoyed by the fortunate patients otherwise impossible to furnish with the present comparatively small sum available for the deficiency in running expenses, and which is entirely derived each year from voluntary contributions.

We believe that the good results here reported have been obtained because; *first,* the patients have been removed from their homes and occupations to a favorable, invigorating climate, with cheerful surroundings; *secondly,* and quite as important, enforced rest in the open air, abundant feeding, and a regulated life; *lastly,* education for their own health and the protection of others.

The magnitude of the task of caring for the poor consumptive would seem to be only a greater reason why the State should undertake it. Private philanthropy has made a good beginning, but can do only a fraction of it. For him who thinks that it is unnecessary to do anything I have one suggestion; let him contract the disease and try to fight for his life without money or friends.

V

THE INFECTIOUS CHARACTER OF TUBERCULOSIS AND THE PROGNOSIS OF INCIPIENT CONSUMPTION.

By GEORGE BLUMER, M. D.,
Albany, N. Y.

The disease which we now know as tuberculosis has existed as a definite clinical entity for a relatively short period of time. Although many forms of the disease were doubtless recognized by the older writers, the modern conception dates only from the close of the eighteenth century, and it was not in fact until after the middle of the nineteenth century that its infectious character was plainly recognized. Two names are prominently associated with the recognition of its infectiousness, that of Villemin and that of Koch.

Villemin in 1865 and 1866 published the results of his experiments, showing that by the inoculation of tuberculous material from human beings into animals the disease could be reproduced; he clearly proved its infectious nature, but it remained for Koch, then a country doctor, to discover the actual cause of the disease. In 1882 this writer published his now celebrated observations on the tubercle bacillus in which he showed that the organism was always associated with tuberculosis, that it could be artificially cultivated outside of the body, and that the bacilli even after many generations of such cultivation reproduced the disease when inoculated into susceptible animals.

The discovery of the bacilli by Koch not only confirmed the observations of Villemin, and the belief of many of the older writers, but paved the way for much more extended observations regarding the methods of transmission of the disease. The knowledge that the disease was of a microbic nature and that the specific germ possessed certain peculiarities which allowed it to be separated with ease from most other disease-producing bacteria, led to its being searched for not only in the lesions of affected men and animals, but also in the various substances which could possibly be contaminated by them.

The subject of the relative importance of hereditary transmission and the post-natal infection has of late years been carefully worked over from a bacteriological point of view. This has resulted in showing that the actual transmission of the germ of tuberculosis is of extremely rare occurrence. The reported cases in which actual tuberculous lesions have been found in children at birth can almost be counted on the fingers. Charrin, Merkel, Rindfleisch, Jacobi and others have reported such cases. Again Birch-Hirschfeld, Armanni and other observers have reported cases in which the blood and organs of the new born child were shown by inoculation to contain tubercle bacilli, though no tuberculous lesions were found in them. In all these cases the mother was markedly tuberculous, and there is no well authenticated case on record where a tuberculous child was born to a healthy mother and a tuberculous father. The certain proof that in these cases the bacilli escape from the mother through the placenta is furnished by the case of Bar and Rénon in which tubercle bacilli were obtained from the blood from the maternal end of the umbilical vessels. Furthermore, though tuberculous disease of the placenta has not been recognized in all these cases, in some, such as those reported by Lehmann, and Schmorl and Kockel, typical tuberculous changes were present in this organ.

The mortality from tuberculosis in the first year of life, amounting, according to Würzburg, to twenty-three per 10,000 living suggests the possibility that in some instances, at least, the bacilli may remain latent during fœtal life but develop shortly after birth. In tuberculosis developing in later life, both in children and adults, there is evidence to show that the bacilli may enter in several ways. The two most important are certainly the respiratory and the alimentary tracts, though rarely infection takes place through the skin or the genito-urinary tract.

The great preponderance in frequency of lung tuberculosis over other forms points to the respiratory tract as by far the most frequent portal of entry. The method of entrance has been carefully studied, and we owe particularly to Cornet and Flügge our knowledge of this subject. In his classical investigations Cornet showed that the dust of rooms in private houses, hospitals and prisons, which had been occupied by tuberculous patients, frequently contained virulent tubercle bacilli, and further that the dust even of the street at times contained them. Later experimenters as Miller and Krüger have confirmed these observations, and further studies have shown that the dust of public institutions and street and railroad cars may also contain the bacilli. As Cornet pointed out this dust infection arises from dried sputum and the danger from infected dust is surely obviated by care and the proper disposition of sputum from infected cases. The experiments of Landouzy and Kustermann show that where the sputum is received into spit cups and the rooms carefully cleaned the dust is absolutely free from bacilli.

While it is generally impossible to absolutely prove the role of dust in spreading tuberculosis many suggestive facts have been brought to light.

Straus found tubercle bacilli in the nasal cavities of nine out of twenty-nine healthy hospital doctors and nurses, in one out of nine workers in libraries, and in one out of six workers in theatres. Certainly in these cases it must be supposed that the bacilli in the great majority of instances reached the nasal cavities by means of the air.

The experiments of Pizzini, who has showed that tubercle bacilli were present in the cervical or bronchial glands of over forty per cent. of healthy people, suggest that dust or air infection is much more common than is supposed. Finally in confirmation of air infection we have the fairly numerous cases in which healthy individuals have become infected by living in rooms formerly occupied by phthisical patients. The cases reported by Miller in which a mother and three daughters were infected by living in rooms formerly occupied by a phthisical patient, and in which tubercle bacilli were actually found in the dust will serve as a type; a number of other such cases are reported.

The researches of Flick regarding infected houses are interesting in this connection. In studying the distribution of phthisis and other tuberculous disease in a single ward in Philadelphia he showed that only ten per cent. of the houses in which tuberculosis occurred were in an isolated position, and that in a number of years more than one and often three or four cases had occurred in thirty-three per cent. of the infected houses. Further, the distribution of tuberculosis corresponded almost exactly to that of the more acute infectious diseases.

In connection with air infection may be considered the marital transmission of pulmonary tuberculosis, and the occurrence of sudden outbreaks of the disease in small towns following the introduction of single cases. Whilst other factors than air transmission doubtless play a part in these cases its importance cannot be doubted.

The Collective Investigation Committee of the British Medical Association was able, in 1883, to collect 158 cases where tuberculosis was transmitted from the husband to the wife, or vice versa, and in the following year the Berlin Medical Society collected forty cases, and the Medical Society of the Paris Hospitals 107 cases. Instances in which the advent of a single case of tuberculosis was followed by endemic outbreaks, particularly in small towns, are reported by Bec and others.

Finally there must be mentioned in connection with air infection the recent researches of Flügge and his pupils which have shown that tuberculous individuals in the act of coughing and sneezing, and even in speaking, throw off small particles of spray, which may extend for a distance of a metre around them, and which may contain virulent tubercle bacilli.

Infection by the alimentary tract is much more common in children than in adults, though even in them primary tuberculosis of the alimentary tract is rare. As Bollinger has shown the upper alimentary tract is almost universally spared whilst the brunt of the attack falls upon the lymphatic apparatus of the ileum. The rarity of primary intestinal tuberculosis in adults is shown by the fact that in 1,000 autopsies at Munich there was but one of primary intestinal tuberculosis. In children Englenah found intestinal tuberculosis alone in seven per cent of children dead of tuberculosis in St. Petersburg. Northup in 125 post mortems on children found but three with tuberculosis of the mesenteric glands alone. Biedert found in eighty-two autopsies in children four with primary intestinal tuberculosis. Clinical reports tend to show that in practically all cases of this sort a food infection, usually through infected milk, has taken place. Thus Ollivier reports a school infection in which eleven cases of tuberculosis which took the intestinal form, occurred in a school, and resulted from using the milk of a tuberculous cow.

Hermsdorf reports three cases of death from intestinal infection in young children of the same family, also from tuberculous milk.

Considering the great frequency with which milk is contaminated, the wonder is that more cases do not occur. According to Bollinger the milk of eighty per cent. of cows with a high degree of tuberculosis is infected, sixty-six per cent. of those with a medium degree and thirty-three per cent. of those with a low degree.

It has been shown by H. C. Ernst, and other observers, that local tuberculosis of the udder is not necessary in order that the milk should be infected. That the milk actually is infective when placed on the market, and that in a large percentage of cases, has been shown by Obermüller, Petri, Fiorentini and many others. The latest researches of Rabinowitsch and Kempner showed that the milk from sixty-six per cent. of cows giving the tuberculin reaction contained virulent tubercle bacilli. Ostertag, on the other hand, had no such results, but the majority of observations seem to support the view that in Europe, at any rate, a fair percentage of the milk on the market in the large cities is tuberculous. Further than this the various products of milk as cheese, whey, and particularly butter, have been found to contain tubercle bacilli in many instances.

In Berlin, making all allowances for the timothy grass bacilli, which closely resemble those of tuberculosis, Rabinowitsch found fourteen per cent. of the butter examined to be infected with tubercle bacilli; in other cities some authors have found a much larger per cent. infected.

With regard to flesh from tuberculous animals the weight of evidence is against its infectivity, except in rare instances. In any event the cooking which it receives would in most cases render it harmless.

Compared to the lungs and intestines as points of invasion, the skin ranks low, though there are plenty of cases which show that skin infection occurs. Even when developed the tuberculous process in the skin tends to a chronic course and shows but little tendency to generalization. Various methods of skin infection have been reported, the anatomical tubercle as seen in anatomists and attendants in post mortem rooms being one recognized form. Fischer reports infection in a nurse as a result of a cut from a spit cup; White of Boston has recorded a case where piercing the ears was followed by a local tuberculosis of the ear lobes. Cases of the infection of washerwomen from washing linen soiled by tuberculous patients are reported by v. Eiselberg and White. Small epidemics of inoculation tuberculosis of circumcision wounds have been reported, particularly from Russia, as the result of the old ritual form of circumcision where suction is used. Thus Eiselberg reports four, and Lubliner five such cases, and in Eiselberg's cases the tubercle bacilli were found not only in the diseased skin but also in the sputum of the operator.

Primary infection through the genito-urinary tract is probably so rare that it may be dismissed in a few words. That it may occur through direct infection from coitus must be admitted, but it seems unlikely that this is often the case. Both in the male and the female the deep and not the superficial portions of the genito-urinary tract are, as a rule, first attacked, and it seems more likely that the infection in the so-called primary genito-urinary tuberculosis is often of blood origin, and is carried from some old focus. Furthermore the probability of infection by direct contagion is lessened by the fact that this form of the disease occurs frequently before the age of sexual activity. Much time could be spent in the discussion of the various unusual and extraordinary ways by means of which the bacillus of tuberculosis can be carried. It has been found on fruit, in eggs, in flies, in bed bugs, on old clothes, on books, on money, and on the hands of tuberculous patients.

Coming now to the question of the prognosis of the disease, and particularly of pulmonary consumption, I think it can safely be said that from a pathological view point there is no chronic disease which shows a greater tendency to heal. The statistics on this subject vary. Aupinel autopsied sixty old men and found evidences of healed tuberculosis in every one of them.

Schlenker found healed or latent tuberculosis in forty-one of 100 cases; Vibert found healed tuberculosis in fifty out of 131 cases dead from accidents. Coats found evidences of healed tuberculosis in twenty-three per cent. of all cases, Fowler in nine per cent. and Martin in a little over nine per cent.

Clinically there is good evidence that taken in its incipient stage pulmonary tuberculosis is very amenable to treatment. Hanot went so far as to claim that sixty per cent. of all cases would recover if treated climatologically during the incipient stages. Certainly as yet we can show no such figures. Flint's statistics from private practice show six per cent. of recoveries and four per cent. of cases in which the disease was arrested. Koeniger reports 420 cases cured out of 1,700, about twenty-four per cent. The report of the Loomis Sanitarium for 1898 shows about fourteen per cent. of cures, and the cures at the Falkenstein Sanitarium in Germany are said to average about fifteen per cent.

It must be strongly emphasized that in all these cases the majority of cures were effected in the early stages of the disease and under favorable climatic and hygienic circumstances.

As ordinarily situated the percentage of cures amongst the poor of our tenement districts, and even in the country, could never reach this figure.

This is strikingly illustrated by the statistics of Datzenko. Amongst his well-to-do patients the percentage of cures was somewhat over twenty, amongst his poor ones it only reached one and one-half.

In conclusion I would say that mention of the various accessory factors working with the tubercle bacilli to produce tuberculosis has purposely been omitted. Lack of time does not allow of the discussion of the role played by hereditary and acquired predisposition, overcrowding, overwork and the various other precursors and aids to infection.

It must not be supposed, however, that because they were not mentioned their importance was overlooked.

VI

THE POLICY OF THE STATE RELATIVE TO THE SPREAD OF TUBERCULOSIS.

By ENOCH V. STODDARD, M. D.,
Rochester, N. Y.

[Dr. Stoddard's paper is printed in full in the *Medical News* of February 10, 1900. The following is an abstract of its contents:]

There are two points of view from which to examine the relation of the state to disease, the sanitary and the economic. The causes of disease have been sought to be stamped out by legislation whenever they have been discovered, and poverty, often due to disease, may be prevented by the state, which is the loser whenever the disease incapacitates the bread winner of the family. The present charitable administration of the State of New York contributes to a greater or less extent to the maintenance of one in every 251 of its population, and the incipient and chronic cases of tuberculosis, existing each year, reach the startling figure of about 60,000. The province of the state, therefore, does not seem to be the direct and detailed care of these patients, but the establishment of a system which shall educate the patient in the care of himself, and the public at large in measures for prevention as well as cure. Such a system could be based upon the establishment of local hospitals or sanatoriums, which not only care for the sick, but become a source of education as to the preventive and curative treatment.

The duty of the state, consequently, as to the prevention of tuberculosis, involves two propositions: first, a legislative one, by which may be established a system of control of those conditions favoring the development and spread of the disease; and second, a provision for the establishment of educational functions by instituting local sanatoria, by means of which knowledge of the best methods of treatment and prevention can be generally disseminated.

It would not be difficult, under the general supervision of the State Board of Health, to found a system of hospitals, originated and managed by local boards of health. The enactment of a law by the Legislature, containing such provisions, would at once serve to develop a series of local hospitals for the care of incipient as well as chronic cases of tuberculosis, in the vicinity of the great centres of population. These, in their turn, would serve as stimuli to the residents of smaller towns and villages for the establishment of their own hospitals. There could thus be originated and followed in every household, a policy regarding tuberculosis, which would exert a power of prevention sufficient to control the development of the disease, as fully as any other malady of a contagious or infectious character.

VII

LEGISLATION CONCERNING TUBERCULOSIS, PAST, PRESENT AND FUTURE.

By SENATOR HORACE WHITE,

Syracuse, N. Y.

As you all know, there has been, accurately speaking, no legislation in this state on this subject. An appropriation was made two years ago, and a committee was appointed to investigate and report as to the wisdom of an appropriation for the establishment of a hospital for the care of those afflicted with pulmonary consumption. That committee gave a large amount of time, and much ability to the work, and rendered an able report, in which they earnestly advocated the need and the wisdom of this appropriation. Last winter a bill was introduced for the establishment of such a hospital. Unfortunately it failed to pass, but again this winter another measure of the same character has been presented. As to the result of this proposed legislation I can only guess, but

I share with you the most earnest hope that it may come to a successful conclusion. I believe the future is sure to bring the desired legislation. I believe when the people of this state realize the danger which confronts them; when they appreciate how much can be accomplished, the result can no longer be in doubt. I suppose it is undoubtedly true that at least ninety-five per cent. of those afflicted with this disease are unable to provide the necessary means to enable them to lead a life calculated to bring them to recovery. It is perfectly well known that tuberculosis can be cured, or at least arrested, in its incipient stage. Can it be that reasonable men will long delay in providing the necessary funds, knowing that those who suffer most are unable to reach that condition in which they have a reasonable chance of recovery, and that more than a majority can be cured?

I have endeavored to procure statistics which would show accurately the cost to the state to-day arising from the care of those suffering from tuberculosis. We all know that every hospital and every almshouse has a greater or less number suffering from this disorder. It is my confident belief that the inhabitants of the State of New York are annually obliged to pay a sum far greater for this care than they would be called upon to pay by liberal annual appropriations. These people are huddled together in almshouses, and drop off, one after another, without hope and without relief.

This is no new problem. We all know that millions have passed away, having succumbed to this disease; we all know that in Germany, in Austria, in Switzerland, and in America, especially in Massachusetts, measures have been taken directly upon this line, with a view to meeting this danger, and that this danger has been successfully met and overcome. It seems strange that New York should fall behind in this march of progress. I believe if every surgeon and every physician in this Chamber would bring to the knowledge of his patients and friends throughout the state a few simple facts, easily appreciated by simple minds, a public sentiment would be aroused which would bring the Legislature in short order to a clear comprehension of its duty.

What has been accomplished elsewhere can be accomplished here. I am not sufficiently familiar with the science of medicine to state accurately, but to the layman's mind I can see no reason why pulmonary tuberculosis cannot be exterminated, just as well as leprosy has been practically exterminated. The countries of the Old World in the middle ages were dotted with institutions for the care of patients suffering from that disorder. They have been successful. Is there any reason why tuberculosis cannot be exterminated in like degree?

If we knew that an invasion, a calamity, or an epidemic were to take off 14,000 of our citizens during the coming year there is not a single man within the sound of my voice who would not feel it a moral duty to spend almost any sum rather than have such a catastrophe, and yet you all know that this estimate of the probable deaths from tuberculosis during the coming year is a reasonable one.

The state provides for the poor and the sickly; for the insane; for the feeble-minded; for the epileptics; and yet these weaknesses and ailments are far less dangerous to the human species than is tuberculosis. In many of those cases there is no hope of bettering the condition of those afflicted, but we are credibly informed that a vast number of the cases of tuberculosis may be successfully restored to health and strength.

I have heard but one argument advanced against this proposition, and that is the expense to the state. I cannot deny that this is a serious problem. The annual charges and expenses of the state have already reached an enormous sum, and yet I cannot doubt that however great there is no need more pressing than that which is under consideration this evening. The lives taken away each year are of the greatest value to the state. even from a pecuniary standpoint. In Germany it is calculated that the expense of rearing and educating the average human being is about $1,500. Suppose it is the same in this country; imagine what it means to the state to lose 14,000 human beings per annum!

I am firmly convinced from the brief opportunity I have had for investigation that this relief is sure to come. It seems to me an urgent duty. I am anxious to join with you in every effort within my power to this end. I believe I am correct in stating, that there is little ground, if any, for the belief that tuberculosis is dying out in this country. This is one of the vital questions of the hour, and I earnestly hope that this Legislature may awaken to the situation and give the needed relief.

VIII

TAXATION WITH RELATION TO THE STATE CARE OF CONSUMPTIVES

By HON. OTTO KELSEY,

Geneseo, N. Y.

I am obliged for the invitation to be present this evening, and I have derived great pleasure from the preceding discussion. There is no one who feels a deeper interest in this afflicted class or a stronger hope in the successful result to be achieved by your profession. I am somewhat embarrassed this evening for the reason that my sympathies and personal feelings are at direct variance with my judgment as to the practical side of this question. Good faith to you, gentlemen, and to myself, as a member of the Legislature, requires me to state that, under the present circumstances, I do not believe the state is prepared to assume this tremendous burden. I have not heard it stated by any of the speakers precisely the manner in which these unfortunates are to be controlled. It is generally assumed that the population affected numbers thousands, and with a population approximating seven millions it is difficult for me to conceive of the regulations under which they can be sorted out and sent to the hospitals or distributed throughout the state. The expense, I think, would be something almost beyond calculation. It costs the state about $550 per capita to erect buildings which house the dependent classes, i. e., the insane and the epileptics, and the inmates of the various reformatories. If the dependent class about which we are talking now numbers something like 60,000, you can imagine what the expense would be. The direct appropriations by the state made each year approach $23,000,000. The same responsibility rests upon us here to keep down the tax rate which rests upon each separate municipality. The rate ranges in a great many places from two to three per cent. instead of two and one-half mills on the dollar. Of the large sum annually appropriated by the state, about $5,000,000 are expended every year for the insane, about $4,000,000 for the schools, $2,000,000 or more for the canals, and about $11,500,000 for various other necessary appropriations. We are still building for the insane under the State Care Act, spending about $2,000,000 per year, and after the housing has been completed it wil cost something like $300,000 a year. There are still some 800 inmates in the almshouses of the state to be provided for. The overcrowded institution at Elmira requires immediate relief, and this will cost, when completed, about $1,000,000. More than one-half of this has already been paid in. There is a new reformatory at New Bedford, which requires a large increase to the state tax for its support. There is a new prison for the insane convicts at Dannemora requiring money. A large increase must also be made in the next few years in the custodial homes, which are regarded by many as among the most useful institutions which we possess. Each year there is required a sum of about $500,000 for the prisons. Almost every one of the state hospitals for the insane, as well as each of the three prisons, has insufficient or improper water supply, and the sanitary conditions are sadly defective. Even if the prisons are not rebuilt, there will be within the next few years an immense outlay required in order to put them in a healthful condition. In addition to these necessary expenditures the state has already. within a few years, assumed burdens which it is bound to complete, year by year, for an indefinite period. One of the largest of these is for "Good Roads." It has been adopted, and the beginning has been made with a large appropriation. Within the past two years two bodies, representing large constituencies, have been before us urging appropriations of from $1,000,000 to $4,000,000 The state has embarked upon this expenditure, and public sentiment seems to demand that it shall progress. Another source of large expense, commendable at the outset, is the forest preserve in the Adirondacks. It started with an appropriation of $1,000,000; it had $1,500,000 the next year, and about $300,000 last year, and I understand that the state administration believes that that amount should be kept up for several years. Last year the first appropriation was made for the State Park in Ulster county, embodying the same idea. The schools, with the increase of population, will necessarily require about $500,000 per annum more in the near future. Notwithstanding all these large expenditures, there has been submitted to the Legislature recently by the Governor recommendations for the appropriation of about $2,000,000 for perfecting our canal system.

I am not discussing the merits or the worth of the scheme for taking care of the consumptives, but I ask you if it is proper and safe for the Legislature to venture upon another expenditure, so indefinite, and probably so large. I regret to be practically the one discordant voice in this assembly; nevertheless, I believe it is ill-advised for the Legislature to take such action until we are better prepared to meet expenditures, the end of which none of us can foresee.

IX

DISCUSSION.

Dr. John H. Pryor, *of Buffalo:* I think the most pleasing feature of this evening has been the the promise that we are not going to continue to discuss this question many years more without taking some action. Last year there were 12.979 deaths from consumption in the State of New York; this year there have been 13,414 deaths, an increase of about 500 over last year. I call your attention to these figures. for, it has been repeatedly stated in discussions on this topic that the disease is constantly decreasing. That statement is misleading. In relation to population the disease is decreasing, but the actual number of deaths is not decreasing—indeed, this year there has been a decided increase in the number of deaths.

As a result of the crusade against tuberculosis we have learned that the disease is curable in the early stages, and that it is preventable, yet we have from 50,000 to 60,000 people in this state steadily marching to the grave. Each year the number is recruited by 13,000, and then they die and 13,000 more take their places, and this goes on everlastingly. It is the cause of eleven per cent. of all the deaths. It remains so in spite of the so-called decrease because the death rate has decreased about fifty per cent. in the last fifteen years, and consumption has shared in that, but it has not shared in that decrease in proportion to other diseases.

What we have learned about consumption has proved to be only additional hardship for the poor consumptive. The education of the public regarding the infectious nature of this disease has resulted in pushing these people aside, so that the consumptive has become the one unique and pathetic victim in an anomaly of our system of charities. This is a disgrace to the State of New York.

Three remedies have been suggested. The first is, that we should have isolation hospitals near municipalities Last year, the Henry bill was passed, but no such hospital has been built near New York City. We should have isolation hospitals for the advanced cases. The second step should be to secure state prevention. We will never have any prevention that amounts to anything until we have state prevention. That can be brought about by simply increasing the powers of the State Board of Health, or by declaring that consumption is a dangerous disease. The disease is not systematically reported because of an ill-advised sentiment among physicians. In the state of Michigan they established state prevention six years ago, and consumption is diminishing more rapidly there than in any other state in the Union. We are to-day in the position of Turkey in Europe, and we do not compare with any other country in Europe. It was mentioned here to-night that even Spain is to establish special hospitals for consumptives. Illinois, Ohio, Maryland and Pennsylvania have all decided in favor of it, and still we are quibbling about the form it is to take. The people will eventually take this problem out of the hands of the medical profession.

We are losing more to-day in this state than the whole cost of the state government. If a life is worth $1,000, the loss this year will be $13,500,000. Think of what it costs to take care of such a person, and of his family, and figure up the degeneracy of his offspring, and when you get through with that, figure up how many more he has infected. What is the use, then, of quibbling about the appropriation of $200,000? We are not asking the Legislature to assume the care of all the incipient consumptives in this state, for, we know that this cannot be done, but we do come here with the proposition that we should have one state hospital as an object lesson to the people of the state. We are willing to let the counties pay for the care and maintenance. It has been said that this would cause an additional tax. It would do nothing of the kind. The money is being spent to-day by city, county, and philanthropy. We want you to take care of these unfortunate people at the right place, and the right time until they are well, and not at the wrong place and the wrong time until they are dead.

These hospitals have got to be built. Physicians and the people generally are not going to allow these persons to die year after year when they know that at least sixty per cent. of the incipient cases can be cured There is no use in discussing statistics because it all depends upon the early diagnosis. This figure can be promised and can be proved.

If 200 people are sent to this institution and sixty per cent. are saved, and sent back to work, it certainly pays. One insurance company in Germany would never have spent $150,000 on the care of consumptives if it did not pay I think if the insurance company can afford to do this, the state certainly can. If the state does this, it is bound to go on with it. Because the Legislature appropriates $200,000 for one institution is no reason why they should go on appropriating at the same rate. You can never tell about future legislation; all that you can do is to do the best you can. I think the saving of human life is more important than the canals and "Good Roads." This question has now been up for three years, and so far the advocates of this plan have not found a question that they could not answer. Let us present our case, and if it does not appeal, then we will go home.

Dr. DANIEL LEWIS, *of New York:* It is a hopeful sign in the discussion of this question that a distinguished member of the New York State Senate is willing to come here and commit himself to the state care of consumptives. My recollection is that until a very recent date, if not up to the present time, when the State Board of Health has asked for an appropriation of $10,000 to combat tuberculosis, by methods of prevention known to be effective, the Legislature, both Senate and Assembly, has not deemed the subject of sufficient importance to grant the appropriation. I take it that this year the State Board of Health is likely to receive a larger appropriation for this work. There is no question in my mind that we are gradually coming to the point of providing state sanatoria for the care of consumptives. I do not agree with the last speaker. however, that we have been a long time discussing it. It is a radical departure in the State of New York, and it is difficult to find three men who will agree as to the methods to be pursued in the establishment of these hospitals. Hasty legislation is usually imperfect legislation. I am in favor of the state care of consumptives. Just so soon as we are agreed, after the fullest possible discussion and investigation, as to the best methods to be put in operation here, and a method which we are sure can be successfully continued. It took more than three years to establish the principle of state care of the insane, and put it in operation.

It seems to me prevention is the first thing to be sought after, and not the care of incipient cases. In the City of New York, which is likely to supply at least ninety per cent. of those applying for treatment in state institutions, the tenement houses are filled with cases of advanced tuberculosis, living in one or two rooms, and cared for without much intelligence. If there is any truth in the fact that phthisis is infectious, and we all know there is, we are constantly doing everything possible to infect the largest possible number of persons in the City of New York. Therefore, the first thing the state should do is to compel the City of New York to provide a place where these patients can be taken out of the tenements and cared for without danger to themselves immediately surrounding them. I know to-day of a patient lying sick with phthisis in a tenement who has been there three years, and yet she could not find a place to go to. Her sister died of the same disease about three months ago; another one died within a year of phthisis, and still another has died at home of the same disease. Probably every one after the first one in this family is an example of infection. I trust that we shall do as Dr. Stoddard has suggested, provide isolation hospitals first, and at the same time, if you please, a small hospital in the Adirondacks, or in a more accessible location, like Sullivan county, for incipient cases. In the latter we could put to the test the statement so often made, that sixty per cent. can be cured. I hope that the statement is true, but it has not been proved, and it should be before we enter upon the establishment of an extensive system of state sanatoria for incipient cases. When the state is willing to give every possible facility for checking infection; when we are ready to establish a sanatorium for incipient cases, I believe that the question of pecuniary support will dwindle into insignificance. My experience has been that when a public necessity has been felt by the people, and appreciated at its full worth, there has never been any grumbling about the cost. That will be the case with the establishment of these hospitals. Suppose it does cost two or three hundred thousand dollars; that is not the income of some individuals in the State of New York. We would hear nothing about the cost provided we were already convinced that we had struck the right plan and were pursuing methods which would be satisfactory finally. If we can be convinced this winter, let us act; if not, let us wait until we are convinced and then let us go ahead.

Dr. ARTHUR G. ROOT, *of Albany:* I wish every member of the medical profession of this state were just as much interested as I am in this subject. As evidence of this I would state that at the hearing before the Finance Committee of the Senate last year on the bill then before the committee. I was present, and there was not one voice raised in opposition to that bill. As an individual I do not believe the State of New York has any right to establish this kind of a hospital, based on humanitarian grounds, but if this evil exists, and it is a menace to the state, and if the figures quoted are correct, it then becomes the bounden duty of the state to do all it can to prevent this terrible loss of life and property. One of the speakers has said that we must establish hospitals for the advanced cases first. The gentlemen advocating this bill said last year, and said again this year, that they have no objection to the bill passed last year, providing for the establishment of sanatoria within the limits of any municipality for the care of advanced cases, but these two measures should run side by side, each helping the other. One provides for removing the source of infection and expense; the other deals with the case until it has recovered.

One of our great legislators has recently touched upon the moral and educational effect of this scheme. Every person who is admitted to the sanatorium, like the one in Massachusetts, on going back to his home becomes a teacher and a preacher of cleanliness. These people will not longer live as they did before, and they will not allow those with whom they come in contact to live as they did because it is vital to their existence that they should not. Consider what would be the effect of such an education upon the public in the course of a number of years. Why is it that the United Charity Organizations of New York City now come forward and tell us that they believe we are right? Because they know it costs more to take care of the relatives of the sick and dead consumptives than to take care of the consumptive and save him. At no time have the advocates of this bill asked for more than a nominal appropriation to put up the buildings. After this the sanatorium becomes largely self-supporting. A large proportion of the expense will be borne by the several counties sending patients there. In brief, we ask, as a medical body—at least I trust so—that the State of New York will have faith in the theories we have advanced, and will give us $150,000 or $200,000 to prove to them that what we say is absolutely fact. We base that upon the experiments already carried out in Massachusetts, as well as in some foreign countries. As a warm advocate of this measure I am delighted that this meeting has been held. We are determined to see that something will be done, and I trust that it may be the right thing.

Dr. S. B. WARD, *of Albany:* It is not possible in tenement houses to carry out any system of hygienic surveillance or any mode of treatment that will result as well for the poor person as will the treatment of a well conducted sanatorium This could not be done even when the patient had a great deal of money, because of the ignorance of the patient, the interference of relatives, and the lack of proper example before him. I think it is scarcely open to doubt, that country places in which the air is free from bacteria, and from irritating dusts of all kinds, are very much better than the immediate vicinity of any city. As to the question of amount of taxation, it would be undoubtedly a very great expense to take care of the 60,000 persons in the State of New York sick with this particular disease, but we do not ask for the state to spend twelve or fifteen millions of dollars a year for this purpose; we only ask that a few may be taken care of properly as an object lesson.

Dr. GEORGE R. FOWLER, *of New York:* In 1895, 1896 and 1897 I had the honor to serve as Health Commissioner of New York City. We were convinced that tuberculosis is communicable, and we instituted researches in the lower tenement house district and proved this. We then sent out circulars in connection with the State Board of Health, of which I was also a member, endeavoring to persuade the physicians of the state that these things were facts, and asking for their help. As a rule, the circulars were thrown in the waste basket. The medical societies of New York City held secret meetings and ridiculed our efforts. This audience strikes me, therefore, as very different from the medical audiences which I have seen in New York City.

Dr. HENRY R. HOPKINS, *of Buffalo:* I have had the honor of being the Chairman of the Committee on Hygiene of the Medical Society of the State of New York for a number of years, and in that position it has been necessary for me to give the matters under discussion to-night some attention. I wish to speak in regard to the use of the terms "incipient consumption" and "advanced cases." I am speaking now more particularly to the laity. It would seem from the discussion that the fate of the two classes is separated by something like fifty per cent. The hopefulness for the future which brings us here comes from our knowledge of what can be done with the incipient cases. The days of the incipient case are few; he is not an incipient case from year to year. To-day there is hope for him, but perhaps by next month he will have become an advanced case, and have taken his place in the class in which ninety-eight per cent. die. In regard to the question of taxation, already referred to by one speaker very extensively, I would say, that we are speaking to the American people. When they are asked to invest anything, they ask two questions: "What is the security?" and "Will it pay?"

There have been two sources of objection to this project, and it is not at all surprising that these should be the State Board of Charities and the State Board of Health. This is because the sensibilities of these two bodies make them critical of any suggestions which do not emanate from themselves, because they are charged with the initiative. Although Koch's discovery was made in 1882, and it has been the common knowledge of the profession that this disease is preventable, neither the State Board of Charities nor the State Board of Health has come before us with propositions looking toward the prevention of this disease.

Dr. SAMUEL B. IRWIN, *of Washington County:* I am both a member of the medical profession and of the State Legislature, and I desire to speak in defense of the Legislature. The people should understand that consumption is a disease which can be cured, and that sixty per cent. of the incipient cases have a reasonable chance of restoration to health under proper circumstances and treatment. This has not been so understood as yet. It takes a long time in medicine to establish a fact. We know that remedies have been given us by our forefathers, and some of them have been in use by two generations of men, and yet they have been proved to be worthless. If the people understand the true situation the money will be forthcoming. I believe that the facts can be presented to the people in the proper light, and when this has been done there will be plenty of money, and the Legislature will not be slow to appropriate this money.

Dr. GEORGE W. BRUSH, *of Brooklyn:* In answer to the gentleman who has just spoken, I wish to call his attention to the chart before us. One chart shows that twenty-five per cent. of the cases admitted were incipient, and on the chart giving the ultimate results, the cases marked as perfectly well represent twenty-five per cent.—in other words, according to these charts all of the incipient cases were cured. I wish to calm the fears of my good friend, the distinguished Chairman of the Ways and Means Committee of the Assembly. As has already been well said by Dr. Pryor, of Buffalo, who, I believe, was the instigator of the resolution introduced in the Senate when I was a member of that body, and which resulted in the appointment of the Committee of Investigation of which I had the honor to be the Chairman, these cases are not to be a charge upon the state. Over half of them are already county charges. Our idea is to take these people and make them productive instead of county charges. If you had an institution accommodating 250, and each stayed there for three months, there would be 1,000 persons in that institution in one year. These would go abroad throughout the state as an army of educators. This is just what is needed. We simply propose to make a beginning and educate the people. This is the most difficult point that I have found in the investigation of this matter.

With reference to what Dr. Lewis has said, let me say, that the committee recommended the establishment of hospitals in the suburbs of large cities for the treatment of advanced cases. The result of that recommendation was the law passed last winter, giving permissive legislation upon this point. That needs to be pushed vigorously even to the point of compulsion, if necessary. Let these two movements go together. We must wake up to the importance of this question. Let us move now, and not delay while 13,000 are dying every year. We can make corrections afterward if need be.

Dr. NELSON H. HENRY, *Member of Assembly,* being called upon for some remarks, said: It is most gratifying to see this large gathering of physicians in this Assembly Chamber. I feel to-night somewhat under indictment, particularly after the address made by the representative from the other legislative body. I had the honor of sitting in this legislative hall during the past year, and have the honor to be a member this year. If we do not, as a Legislature, indorse this measure this year, it is not because we do not indorse the principle, but we may not see our way perfectly clear to do what is asked. It is not simply the small amount asked for at the outset, but what it may lead up to in the future. I did what I could last year by fostering the bill for the establishment of isolation hospitals for cases of tuberculosis for cities of the first class outside of the corporate limits. I did more than that; I had a bill which asked the sum of $50,000. Without creating any criticism at this time, I think I may honestly say that the desire on my part to establish an experimental station in connection with the Loomis Sanitarium failed at that time in great part on account of the other bill, which was in the same committee, and which asked for the larger sum of $200,000. If those who were supporting that bill had seen fit to carry into effect the smaller sum of $50,000, establishing a station nearer the municipality of New York City, I think we would have had to-day an opportunity of studying the effect of state supervision.

This past summer I have been a member of a committee to study the subject of bovine tuberculosis. While, as a practitioner of medicine, I have studied general tuberculosis affecting the human species, I was surprised at the paucity of our knowledge regarding tuberculosis in the general sense, and also the many theories and ideas the general public had in regard to the communicability of tuberculosis. It has been stated here this evening that tuberculosis is communicable to the human species through milk, yet in conversation with our pathologists I have been able to learn of very few who have found the tubercle bacillus in the milk of the cow. Moreover, the tubercle bacillus of the cow is of a different character from that of the human species, and authorities differ to-day as to whether that source of infection is as great as has been supposed. There are many other matters which we, as a profession, do not understand in regard to the care and treatment of tuberculosis. As a member of your profession I am heart and soul with the sentiment expressed by you, and am only too anxious to help you as a member of the Legislature in eradicating the disease, but do not be disappointed if we, as members of the Legislature, cannot look at the matter just as you do, or give you what you ask for.

I have been impressed, during the past year, with the importance of sanitation, particularly in regard to bovine tuberculosis. It is very important that we should look after the sanitary conditions in our great cities. We found that where the cattle were poorly housed, and crowded together, sometimes almost entire herds would be infected with tuberculosis. Again, we found where the sanitary surroundings of the cattle were good, there was very little tuberculosis. I wish to see first the establishment of these isolation hospitals for the advanced cases of tuberculosis. I do not agree with the speaker who seemed to frown upon or discredit the project of creating hospitals for the hopeless cases. There is charity even in providing such a place in which these patients can die. But we are doing something more than this at the same time; we are removing most intense foci of tubercular infection. As a member of the Legislature I do not wish to return to the profession of New York City and stand apparently under the indictment of not acting promptly in this matter. I do not think, however, that the people have been educated sufficiently to understand this subject, and I do not think we should go too rapidly with this proposed legislation. We should not be criticised unfairly if we are loath to appropriate the public money when in doubt concerning the wisdom of so doing.

Dr. Z. TAYLOR EMERY, *of Brooklyn:* I am heartily in sympathy with the object of discussion to-night. There have been a good many things said here on both sides of the question which are undoubtedly true, but I have been greatly disappointed in the attitude which our legislators have taken. I have been sorely disappointed, more especially, with those belonging to our own profession, for the reason that an idea prevails among the people at large that the doctors are fond of fads, and that this presents a very attractive one. The voice of the medical educator will have a more potent influence on his fellows than the voice of ten men outside. I think the last speaker has not done himself justice; he, of all others, should have urged an appropriation for this object lesson. If we cannot obtain the appropriation of $200,000, let us have the $50,000 appropriation.

Dr. OTIS: With regard to the remarks made by the honorable gentleman from Geneseo, let me say that I think he considers it too much a matter of entirely new and added taxation. It is not; it is a diversion of money already appropriated by the state from a bad and unscientific use to a better and more scientific use. Suppose that 100 of the 800 in the poor house were hopeless consumptives. If these 100 consumptives were cured in the state sanatorium there would be a saving of $60,000.

Clinical and Pathological Notes

An X-Ray Burn.—From March, 1896, throughout the remainder of the year many experiments were made in the laboratory of the Oneonta State Normal School, as in other well equipped laboratories, to determine the properties, phenomena, etc., of the x-rays. These experiments had for their object mainly the best conditions for producing the rays in abundance, strong fluorescence on screens, clear differentiation of tissue by fluorescence and effects upon photographic dry plates and, in general, the demonstration of the utility of this new form of radiation.

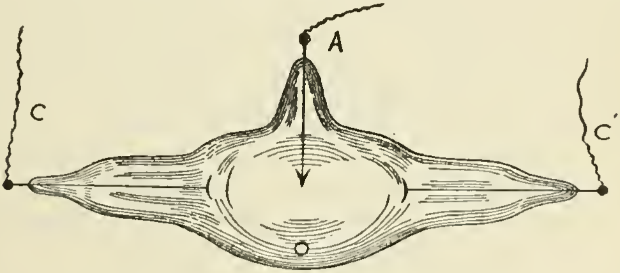
Soon after American experimenters had repeated Roentgen's experiments, a coil was ordered from Ritchie & Sons that would produce a strong ten-inch spark. When constructed this actually gave when well driven a thirteen inch spark of such volume as is now designated by the term "fat."

The pearshaped tubes were first used, then the focusing tubes with single platinum anode and at times the double cathode tubes. Various devices were employed to vary the rapidity of the interruptions of the primary current of the induction coil. Among these were rotary interruptors both in air and under water, the ordinary hammer and spring breakpiece furnished with the coil, etc. With excessively rapid interruptions of the primary current, alternating currents were produced in the secondary circuit of the induction coil, and, of course very heavy primary currents tended to make the automatic interruptions more rapid, and thus to give in the secondary coil a similar result.

I used in my experiments two adjustable auxiliary condensers of three micro-farads each to quench the spark at the breakpiece, and often used sufficient current to keep up a very heavy ten-inch spark. A storage battery of eight cells was used for power, and by a rheostat the current could be varied from two to ten amperes. For the experiment that I am about to describe for its interesting physiological effects, the apparatus and current used were as follows:

The coil as described above actuated by an eight to ten ampere current and a double focusing Crookes' tube with two cathodes and a wedge-shaped anode.

The distance between each of the concave cathode pieces and the wedge-shaped piece of platinum was about four inches and from the point of the wedge and the surface of the glass (point of exit of rays) was about one and a quarter inches.



Experimenters soon learned to know from the "look" of a tube how well it was working, and to detect any peculiarity in the appearance of the fluorescence and the character of the rays produced. This was indeed a peculiar tube. First of all it would stand an enormous current without "puncturing," and while it gave strong fluorescence it did not *define* or *differentiate* clearly. In fact, bone, muscle and cartilage gave shadows in the fluoroscope not differing greatly in density. At the same time these rays had great penetrating power. I speak of this feature of tubes merely to show that what were named x-rays have varying qualities so that possibly X, Y and Z would furnish a better description. This tube alone of many I used was the only one that ever produced harmful effects, and as these effects were produced by the use of the same tube on the same day upon myself and another person it illustrated a type of tube that might be universally harmful. In December, 1896, I wished to obtain for use in demonstrating the value of x-rays in surgery, a skiagraph of the tissues about the knee cap. My own knee most conveniently served as the subject of the experiment. I placed the point of exit of the rays from the glass about three or four inches from the inside of the knee and the dry plate close to the outside, and operated the tube by use of a current varying from seven to ten amperes for ten minutes. I did not suffer the slightest sensation until about two weeks later. Then a red spot appeared over an irregular area somewhat larger than a silver dollar. This area itched, smarted, ached, and day by day grew more troublesome and painful. Finally the surface tissue broke open and later sloughed off deeply and continue to secrete a lymph-like substance. During the development of the disease the knee ached and burned, and at times became stiff an swollen.

The burn was treated with dry, antiseptic dressings. In three or four weeks from the time when the disagreeable sensations began, granulations appeared within the burned space, and these seemed to be at first appearance covered with healthy, pink skin. Other granulations formed, and these coalesced until finally in about eight weeks the area seemed to be perfectly healed. The space was entirely destitute of small hairs, was somewhat scarred and a trifle dry, but otherwise seemed to be perfectly normal tissue, and continued in this condition from about March of 1897 to September of 1899. At times, I noticed that when I became somewhat overheated the knee itched slightly, but otherwise gave not the slightest trouble.

In September, 1899, while in exceptionally good health, I fell, bruising my knee slightly, but not in the area of the x-ray burn. Somewhat later the knee began to itch, and to be for that reason quite uncomfortable. A little soreness developed, and finally in the center of the area affected by the x-ray a yellowish spot appeared. This broke and a scab formed and thickened, and seemed to cup into the knee and a pus-like substance formed underneath. Remedies were used to stimulate the tissue of the knee locally, and once or twice the scab was removed but the eating-in process continued, and the pain grew daily more severe and paroxysmal. The whole knee finally became inflamed, and could only be bent with difficulty, and walking became very painful.

Toward the latter part of October, 1899, my physician recommended bichloride of mercury and carbolic acid solution hot-packs to be applied as faithfully as possible while I was not attending to my regular duties. An ointment was substituted for the hot packs in the interval in which it was necessary to do some walking. But with more or less use of the leg each day and irregular treatment, the condition of the knee grew much worse until November 14th, when I entered the Albany Hospital.

At this time dead tissue had extended well toward the joint and covered quite a portion of the space affected origially by the x-ray. The dead tissue was white, and feelingless and gradually developed into a body resembling cartilage.

The pain became unbearable except when the knee was treated with two per cent. to four per cent. carbolic hot-packs. With these applied at intervals of one to three hours for three weeks with perfect rest, the general inflammation subsided, and there seemed to be a certain sort of freedom of motion of the dead tissue on the bone covering underneath, which gave with the frequent stretching of the leg a grateful sensation. The border of the ulcer seemed to close in somewhat, but very gradually.

After three and a half weeks of treatment as above, the dead tissue was mechanically cut away until at the bottom at a depth of perhaps three-eighths to one-half of an inch there appeared granulating points of new tissue. The hot-packs were continued, and about one week later more of the dead tissue was removed. Later still an ointment was substituted for the hot-packs, which caused the dead matter to slough off more rapidly.

At the end of six weeks, the edges of the wound were pressed together and strapped with adhesive plaster and the stimulating ointment and small hot-packs, to lessen pain, were used alternately. Day by day the edges of the wound were drawn together closer and closer and strapped. Granulations kept springing up in the center of the wound and after seven weeks, extended on one side well up to the surface of the skin, while on the other abundant granulations were distinctly seen underneath, although a trifle of the dead tissue still appeared. The granulating points were exceedingly sensitive to the touch or to pressure throughout the process of healing. After the removal of the dead tissue there was a distinct gain in the use of the leg, and a little later standing and walking a few steps at a time did not cause particularly unpleasant sensations.

The treatment described was continued until January 31st, when the wound had completely healed. The stiffness of the knee decreased and freedom from pain and soreness followed rapidly after the healing of the wound, and walking soon became quite natural. Since the wound healed the skin that first formed has been gradually replaced by firm, soft and natural tissue, and the healing process seems to be perfect and complete.

The use of the same tube upon another person has been mentioned. In this case the original burn was similar but covered the entire side of the foot. The second attack was also much the same as mine, except that the tissues sloughed naturally and to the depth of one half inch without surgical aid, and the process was not attended with much pain. The distance of the tube from the foot was about eight or ten inches but the exposure was twice as long. These experiences would tend to prove that certain tubes produce rays of a dangerous character and that these rays affect all alike.

HOWARD LYON.

STATE NORMAL SCHOOL, ONEONTA, N. Y.
February 8. 1900.

Editorial

The Albany Guild for the Care of the Sick Poor

The report of the Guild for the year ending January 31, 1900, has recently been issued At the annual meeting, held in February, authority was vested in the senior nurse for the detail of nurses in the Department of Visiting Nurses, in Dispensary Work, in Dentistry, and in the use of the Emergency Fund, which provides for the loan of articles and appliances in the custody of the Supply Committee. Under the demands upon it, the Guild has thus extended its organization to meet all requirements and emergencies in which the services of a trained nurse may be needed. Its work lies especially among the poor, but in the arrangement for service in what is known as "Moderate Income Cases," an opportunity is now given for trained nursing service for persons in any walk of life. It may be said that a charity which began with the custom of supplying dainties to the sick poor, has developed into practical ministrations which meet every demand of modern scientific practice. Under the discipline naturally attending an organization of this kind, the best nurses are secured, their duties are strictly defined, and the distinction between the duties of physician and nurse, not always comprehended outside of a hospital, secures broad recognition. The total number of visits during the year was 8,201.

A new department has been organized to provide dental service for the poor, under an offer from ten dentists to devote one hour each a week to services on the teeth of the indigent poor whom the management of the Guild might certify as worthy. This plan is to be made a factor in the work of the new year.

With reference to the co-operation of the Guild with the district physicians, the following statement is incorporated in the report:

" Heretofore the charity work of the Guild has been done in co-operation with the district physicians appointed by the Mayor. Under the new city charter the Commissioner of Public Safety has charge and supervision of the Department of Health. In him is vested the power to appoint not only the Health Officer but also the Health Physicians assigned to the health districts of the city. In order to ascertain if the Guild nurses would still be allowed to work under the Health Physicians the President made application to the Commissioner of Public Safety asking that the Guild might be used by the Health Department as a factor in its work, among the sick poor. The appeal was based on the following points in favor of the Guild:

'*Its claim:* It has an experience of ten years in caring for the sick poor through graduate nurses; incorporated three years since, it has become a regulated work, the value of which is attested by the constantly increasing demand for the nurses by physicians; it is supported by the citizens of Albany, who endorse the method which provides not only skilled nurses for the sick, but instructs the family in the care of their own sick, in the preparation of diet, and in the laws of health, and emphasizes cleanliness and ventilation in the home; it has a large loan closet from which the nurses provide necessary bed-linen and clothing for the sick; it has a supply-closet which furnishes everything required in the care of the sick; it provides drugs, prescriptions and diet when not otherwise supplied; its aim is to help the poor without pauperizing; it asks no financial aid from the city or county.

'*Advantages to the Health Physicians:* Graduate nurses will carry out directions carefully; enforce the physician's orders; make his ability evident and acceptable; insure the patient's recovery when possible; relieve the physician of needless demands upon his time, and dignify his practice among the poor.'

"Although the demands upon the health officer have made it impossible for him yet to give the plea for co-operation serious consideration, the Guild has had the honor of being informed by the Commissioner of Public Safety, that the Health Physicians will be instructed to avail themselves of the services of the Guild nurses subject to further advices from the Health Officer. The Managers trust that this service will be so acceptable that the Guild will always be allowed to consider itself at the call of the Department of Health."

Women Nurses in the Army

A bill recently introduced into Congress providing for the employment of trained women nurses in general and post hospitals of fifty beds and upwards should receive the hearty indorsement of all medical men.

No proof is needed to-day to convince anyone of the superiority of women nurses. The fact that all the nursing in civil hospitals is now done by women and that the results have been visibly better since their employment is sufficient. In the last war the care and management of the sick were most severely criticised and often justly so. The feeling was general that the necessary suffering and hardship incident to war should not be increased by unnecessary neglect and want of care. The soldier should not be asked to be a martyr as well as a hero, nor should the slaughter of battle be duplicated by a high mortality in the hospital. The State, when it asks or requires its citizens to fight its battles, should both from the standpoint of economy and philanthropy find no expense too great to minimize the mortality or the suffering entailed.

State Medicine

Edited by Harry Seymour Pearse, M. D.

Important Bills in the New York Legislature.*—Assembly bill No. 993. An Act "To Regulate the Practice of Midwifery, and to Provide for the Licensing of Midwives in the City of New York."

This act provides for a board of examiners in midwifery, to consist of five members, regularly licensed physicians. These examiners shall license after examination persons of good moral character who desire to practice midwifery in the city of New York.

Senate bill No. 681, for the same purpose as Assembly bill No. 993, regulates the practice of midwifery by examination before a board consisting of the sanitary superintendents of the boards of health of each of the boroughs of New York City.

Assembly bill No. 914. An Act "To Provide a Hospital for the Treatment of Contagious Eye Diseases in the City of New York."

This act provides for the purchase of suitable land and erection of buildings as a hospital for the treatment of contagious eye diseases. The Board of Managers is named in the bill, and the Comptroller is directed to issue bonds to defray the cost of constructing said building.

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* By courtesy of the Committee on Legislation of the Medical Society of the State of New York.

Senate bill No. 740. An Act "To Exempt from Taxation the Property of Certain Medical Societies Situated in Cities of the First Class."

This act provides for the exemption from taxation of the property of medical societies, provided it is used only for the purposes of the society, and that the amount of the property does not exceed over one hundred thousand dollars.

Senate bill No. 1025. An Act "To Charter the New York State Medical Association."

This act incorporates the New York State Medical Association and enables it to hold personal or real property, and bequests not exceeding one hundred thousand dollars, and to constitute a death benefit fund for its members, and to assist in the enforcement of the general medical laws of the State of New York.

Assembly bill No. 1581. An Act "To Secure the more Prompt and Accurate Determination of the Causes of Suspicious Death, and to Abolish the Office of Coroner."

This act provides that the Board of Health shall be notified of any sudden or violent death, and they shall assume the examination and determination of the cause of death. Boards of Health of cities of the first and second class may organize a bureau for the performance of these duties, and appoint the necessary medical officers. From and after the passage of this act the office of coroner will be abolished, at expiration of term.

Assembly bill No. 1338. An Act "To Amend Section 318 of the Penal Code."

This act provides that anyone who sells, lends or gives away any instruments or medicines for the prevention of conception, or for causing unlawful abortion, or advertises the same, shall be guilty of a misdemeanor. When the prosecution is made on the complaint of a medical association or society, the fines so collected shall be paid to such society or association.

Assembly bill No. 585. An Act "To Amend the Charter of the City of New York."

This act provides that the driver of an ambulance shall have the right of way over all vehicles except those carrying United States Mail.

Assembly bill No. 1229. An Act "In Relation to Chiropodists and the Practice of Chiropody."

This act provides for the association of ten or more chiropodists who after organization shall pass upon the licensing of all persons to practice chiropody. Any person, unless he be a member of this association, who practices chiropody, shall be guilty of a misdemeanor.

Senate bill No. 818. An Act "To Amend the Public Health Law, and to Incorporate therein other Statutes Relating to the Public Health."

This act contains provisions relating to the organization and powers of the state and county medical societies. The period of medical study required for a degree is changed from four years of nine months to four years of eight months, and an allowance of the first year is made to graduates of a registered college course.

PRESENT POSITION OF MEDICAL BILLS *

Assembly bill No. 846 (Senate bill No. 509). Third reading, March 14.
Assembly bill No. 847 (Senate bill No. 511). Second reading, March 7.
Assembly bill No. 904 (Senate bill No. 559). Third reading, March 6, and sent to Senate March 12.
Assembly bill No. 1129. Sent to Senate, February 23.
Assembly bIll No. 1128. Amended and delivered to city clerk, March 15.
Assembly bill No. 1229. Third reading, March 6; recommitted March 7.
Assembly bill No. 585. In committee.
Assembly bill No. 1262 (Senate bill 740). Third reading, March 16.

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* For titles see ALBANY MEDICAL ANNALS, of February, March and April, 1900.

Assembly bill No. 1338. In committee.
Assembly bill No. 1439 (Senate bill 818). In committee.
Assembly bill No. 1581. In committee.
Assembly bill No. 1840 (Senate bill No. 681). Third reading, March 13.
Senate bill No. 509. General orders, March 15.
Senate bill No. 511. General orders, March 15.
Senate bill No. 681. Sent to Assembly March 15.
Senate bill No. 740. In committee.
Senate bill No. 559. In committee.
Senate bill No. 818. In committee.
Senate bill No. 892. Amended March 12.
Senate bill No. 1025. Amended March 15.

In Memoriam

HENRY C. VAN ZANDT, M. D.

Dr. Henry C. Van Zandt ('65), one of the best known members of the medical profession in Schenectady, died at his home in that city in February, 1900. Dr. Van Zandt received his early education in the schools of Schenectady, and entered Union College in the class of '65. After leaving college he entered the Albany Medical College, graduating in 1865, and began his professional career on Long Island, later returning to Schenectady, where he established a substantial practice. He was also identified with the drug business. He was a member of the staff of the Ellis Hospital, the Holland Society, the Schenectady County Medical Society and the New York State Medical Association.

Medical News

THE MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—Meeting held March 14th, 1900, in Alumni Hall.

The following members were present: Drs. Bartlett, Blumer, Davis, George, W. H., Happel, Hun, Jenkins, Lipes, McCulloch, Mosher, Munson, Neuman, Richardson, Sabin, Thompson, Wansboro, Wiltse.

The meeting was called to order at 9 P. M., the Vice-President, Dr. WILTSE, in the chair.

1. Reading of the minutes of the last meeting. It was moved by Dr. Mosher that, as the minutes had already been printed, they should be adopted as printed. Motion seconded and carried.
2. No minutes of special meetings.
3. No reports of committees.
4. No applications for membership.
5. No motions or resolutions were made.
6. Miscellaneous business. Under this head the following letter from the Hon. Martin H. Glynn was read:—

HOUSE OF REPRESENTATIVES,
WASHINGTON, D. C., *March 13, 1900.*

DR. GEO. BLUMER, Albany, N. Y.

MY DEAR SIR:—I am in receipt of the resolution of the Medical Society of the County of Albany requesting me to support House Bill No 6879, which seeks to provide women nurses in the military hospitals of the army.

In acknowledgment of that petition allow me to say that I am heartily in favor of this bill and will do all I can towards having it enacted.

Very respectfully,
MARTIN H. GLYNN.

7. Reading of papers.

Dr. DAVIS read his paper on "Leprosy in the Hawaiian Islands."

Dr. WILTSE declared the paper open to discussion.

Dr. BARTLETT remarked that he did not rise to discuss the paper as he did not feel himself familiar enough with the subject. He wished, however, to make a motion that a vote of thanks be extended to Dr. Davis. One suggestion in the paper he thought would bear repetition and that was the suggestion that the medical men in this country should study leprosy more carefully, inasmuch as it occurred in our new possessions. Regarding the statement that the lengthy incubation of the disease made it dangerous, as an individual could be infected and then move to another country before the disease showed itself, he emphasized the importance of learning to recognize the disease in its early stages. He noted the similarity between syphilis and certain forms of leprosy and inquired if the Hawaiians were more subject to syphilis than other savage peoples.

Dr. THOMPSON seconded Dr. Bartlett's motion, which was carried. When he was a student in New York he said that Buck and the elder Bulkley had pointed out certain special forms of syphilis which occurred in sailors who had been in the tropics and contracted the disease from colored women. This form was particularly difficult to cure. Could some of these cases possibly have been leprosy?

Dr. JENKINS stated that he thought he had recently seen a case of leprosy in Albany. The patient was a woman. One foot was much enlarged and she had lost some toes. There was anæsthesia of the skin and an ulcer on the dorsum of the foot.

Dr. DAVIS, in closing the discussion, stated that syphilis was very severe amongst the Hawaiian natives, especially the tertiary forms. He suggested that in future years we are likely to have some cases of leprosy in Albany amongst the 400 men who were with the First N. Y. Volunteers in Hawaii.

Dr. Wansboro then read his paper on "Typhoid Fever in Private Practice."

Dr. Wiltse declared the paper open for discussion.

Dr. Davis stated that his experience with whiskey and strychnia differed from Dr. Wansboro's. Perhaps the good effect of the whiskey was due to the fact that the soldiers were used to it. In the 395 cases which he saw amongst the troops in Hawaii, whiskey and strychnia were the only stimulants used. There were only twelve deaths in the 395 cases. Sponging in the form of ice sponges was very beneficial; a sponge was given whenever the fever exceeded 103.5,° F. No antipyretics were used. There was no difficulty in keeping the fever down. Almost the only nourishment was two quarts of milk daily. A few cases had albumen water and liquid peptonoids. One physician tried feeding the patients on soft maccaroni without ill effects. The patients had diarrhœa as a rule; only a few had hemorrhages. Death was generally due to perforation. Some patients had tobacco smuggled in to them and a patient occasionally swallowed a chew of tobacco.

Dr. Hun congratulated Dr. Wansboro on the care with which he had evidently studied his cases. His conclusions mainly accorded with his own ideas. He thought whiskey should be used in cases which had been accustomed to it. He thought that Dr. Wansboro would probably change some of his ideas on the subject as he saw more cases. He could not see that any drug particularly influenced the disease. Water was a good thing. The rule was at present to give a liquid diet but he did not think it would make much difference if we gave solid diet. He cited Fitz's statistics covering a very large number of years, and showing that the mortality was no greater in the old days of solid diet than it is at present. In his experience delirious cases had a more unfavorable prognosis than non-delirious ones. He thought digitalis was the best heart tonic in the disease but had seen cases where it failed to act. He thought that whiskey and strychnia were good heart tonics when the pulse became very rapid.

Dr. Sabin then read his paper "Report of a Case of Opacity of the Vitreous."

Dr. Wiltse declared the paper open to discussion.

Dr. Munson stated that when a case of opacity of the vitreous presented itself to him he looked for one of three forms:–

1. A fine stippled condition which usually indicated syphilis;

2. An opacity in the form of fine filaments found with chronic chorioiditis or progressive myopia; and

3. A dense heavy condition of the vitreous due to hemorrhage. He then reported an interesting case:–

A woman, aet. 45, come to him with a body in the vitreous which looked like some animal parasite. He made a diagnosis of cysticercus in the vitreous and sent the case to Dr. Knapp, of New York, who concurred in the diagnosis, at the same time noting certain changes in shape which the body was undergoing. Several other New York oculists also saw the case and agreed with the diagnosis. Later the appearances changed and Dr. Knapp became doubtful of the diagnosis and finally the cysticercus-like body entirely disappeared and many fresh hemorrhages of the chorioid became apparent. It proved to be eventually a case of opacity of the vitreous in all probability due to hemorrhage. He mentioned the case as indicating the necessity of keeping some cases constantly under observation before operating. The treatment of such cases was not satisfactory except in those due to syphilis. He thought that at times he had had good results from the use of pilocarpine, used on several successive days in doses sufficient to cause profuse perspiration.

A motion to adjourn was made. Seconded and carried.

ALBANY MEDICAL COLLEGE: SIXTY-NINTH COMMENCEMENT.—The Sixty-ninth commencement will be held on May 2d, 1900. Reunion of decennial classes, the twenty-fifth anniversary of the Class of 1875, and the meeting of the Alumni Association will take place in the College Building, at 10 o'clock. The address of welcome will be delivered by Professor Hailes. At noon the Association will visit and inspect the new Albany Hospital. Commencement exercises will be held at Odd Fellow's Hall at three o'clock, the address to the graduating class to be delivered by Dr. James H. Canfield, Librarian of Columbia University. The alumni dinner will be served at the Hotel Ten Eyck.

ALBANY CITY HOSPITAL.—At a recent meeting of the Board of Governors of the Albany City Hospital, Mr. William H. Weaver was unanimously elected vice-president to fill the vacancy caused by the resignation of Mr. J. Townsend Lansing, whose engagements prevent him from giving his time to that office. Dr. Henry Hun presented the action taken by the Board of Supervisors relative to the request of the medical societies for the construction of a pavilion for cases of insanity. President McCredie was authorized to appoint a committee from the board to confer with the supervisors with regard to details. Dr. Henry Hun, Hon. William L. Learned, and Mr. William H. Weaver were appointed as the committee. The report of the work performed by the surgical staff of the hospital was presented by Dr. Albert Vander Veer.

ALBANY COLLEGE OF PHARMACY.—The nineteenth class of graduated pharmacists to leave the Albany College of Pharmacy received their degrees Tuesday evening, March 19, 1900. The commencement exercises, which were held in Odd Fellows' hall, were opened with prayer by the Rev. Lorenzo D. Case. Dr. Willis G. Tucker then delivered a short address of welcome and was followed by President Raymond who conferred the degrees, thirty-five in number. The Rev. John J. Lawrence delivered the address to the students. Walter A. Wright delivered the valedictory. Arthur L. Andrews, Esq., of the Albany Bar, presented the prizes to the graduates. After the exercises the alumni banquet was held at the Kenmore Hotel.

BOARD OF CHARITIES OF PORTO RICO.—The tremendous amount of work being done for the relief of the indigent of the Island of Porto Rico may be gathered from the weekly reports of the Relief Department, Board of Charities of Porto Rico, in charge of Major John Van R. Hoff, Chief Surgeon U. S. A., (A. M. C. '64). The total population of the municipalities receiving aid is 956,779. For the week ending February 11, there were reported 87,729 indigents; with 3,170 on the sick list, and 199 deaths. 589,491 rations were issued to this mass of suffering humanity, while 8,845 men were working for food.

THE SAMUEL D. GROSS PRIZE OF ONE THOUSAND DOLLARS.—The announcement is made through the Philadelphia Academy of Surgery by the trustees of this prize fund that they have not received any essay which they deemed worthy of the prize announced for January 1, 1900, and they further announce that the prize will be awarded on October 1, 1901. The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel B. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th St., Philadelphia," on or before that date. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. For further information address the Committee.

AMERICAN ACADEMY OF MEDICINE.—The twenty-fifth annual meeting of the American Academy of medicine will be held at "The Shelburne," Atlantic City, N. J., on Saturday, June 2nd and Monday, June 4th, 1900, under the Presidency of Dr. G. Hudson Makuen, of Philadelphia. "The Medical Aspects of the Home" will be considered in the following papers: "What are the Essential Conditions for a Habitation to Develop and Maintain a Healthful Family Existence?" by Dr. Rosa Englemann, Chicago; "The Influence of Early Training of Manly and Womanly Qualities to Avoid Degeneracy," by Dr. J. Chester Morris, Philadelphia; "Artificial Lighting of the Home," by Dr. S. D. Risley, Philadelphia; "The Influence of Medical Supervision of Children in their Homes," by Dr. J. Madison Taylor, Philadelphia; "The Physician's Influence *in re* Vacation Schools," by Dr. Helen C. Putnam, Providence; and "Defectives and Delinquents Inside and Outside the Family Circle," by Dr. James W. Walk, Philadelphia. Other papers of interest on miscellaneous topics will be presented.

BIBLIOGRAPHIA MEDICA (INDEX MEDICUS).—On February 15, 1900, appeared the first number of the *Bibliographia Medica*, published under the auspices of the "Bureaux de l'Institut de Bibliographie" of Paris. This publication, modeled after the *Index Medicus* which suspended publication last year, will be a monthly review appearing the fifteenth of each month and will contain in the neighborhood of eighty pages devoted to the International Bibliography of the Medical Sciences. M. Marcel Baudouin, Director of the Institute of Bibliography of Paris, will be editor-in-chief, assisted by Mm. C. Potain, Member of the Institute, and Charles Richet, professors in the "Faculté de Médecine de Paris." This publication will be as complete as the *Index Medicus* but at the greatly reduced price of sixty francs or $12 to subscribers outside of France. All communications, journals, books, etc., should be addressed to M. le Dr Marcel Baudouin, *Rédacteur en chef-gérant*, à l'Institut de Bibliographie, 93, Boulevard Saint-Germain, Paris.

MORTALITY OF THE STATE OF NEW YORK FOR THE YEAR 1899.—The number of deaths from all causes reported for the year in the Monthly Bulletin is 121,820; this is 850 more than in 1898, and 4,740 more than in 1897, which was a year of unusually low mortality; it exceeds the average mortality of the ten preceding years by 2,550. Besides these reported deaths there were 1,200 delayed returns, not reported in the Bulletin. The death rate per thousand population is 17.3 which is the average death rate for the past ten years; that of 1898 was 18.0. The decrease in the death rate is chiefly in the Maritime district where the mortality was less by 800 than in 1898. The *infant mortality* was less than the average by nearly 5,000 and is 1,800 less than that of last year, 29.0 per cent of the deaths occurring under five years of age against the average of 35.0. There were 1,100 fewer infant deaths in the Maritime district than in 1898 and there is decrease in all the district save the Lake Ontario and Western. The *zymotic mortality* was 12.0 of the total against the average 17.0. Compared with the average of ten years the deaths from *diphtheria* are but little more than half as many, though the number is 175 greater than in 1898; *diarrhœal* diseases caused 2,000 fewer deaths than the average; *whooping-cough*, *measles*, *scarlet fever* and *malarial* diseases all have fewer deaths reported from them than the average. The only zymotic disease which caused an increased mortality is *cerebro-spinal meningitis*, of however no local prevalence. *Small pox* caused 21 deaths, all occurring in New York city, save 1 each in Rochester, Troy and the adjacent village of Waterford. The outbreak in the western part of the state, beginning in May, 1898, continued till midsummer of 1899, reaching 45 localities, in 14 counties, and about 320 individuals, only one of the number ending fatally. Sporadic cases of separate outside origin subsequently occurred in 13 localities, extensive only in one instance, among negro laborers in brick yards at Coeymans and Athens, and causing two deaths in Troy and vicinity. At the end of the year the state is believed to be free from *small pox*. *Grippe* is estimated to have caused 7,000 deaths January to April; an epidemic of moderate severity prevails at the close of the year. The deaths from *acute respiratory* and other local diseases were excessive on account of it, nearly 18,000 deaths from the respiratory diseases having occurred, or nearly 15 per cent of all deaths.

PERSONAL.—Dr. WENDELL C. PHILLIPS, who served as Chairman of the Business Committee at the recent meeting of the State Medical Society at Albany, has been appointed Surgeon in Otology to the Manhattan Eye and Ear Hospital, and Chairman of the Section in Laryngology of the New York Academy of Medicine.

—Dr. JAMES P. KIMBALL, U. S. A. (A. M. C., '64), has been promoted to be Lieutenant-Colonel and ordered from Governor's Island to Omaha, Neb., as Chief-Surgeon of the Department of the Missouri.

—Dr. FREDERICK D. BRANCH (A. M. C., '99), House Surgeon at St. Peter's Hospital, has been appointed Acting Assistant Surgeon, U. S. A., with the rank of first lieutenant, and has been ordered to report to the General Commanding at San Francisco to proceed to the Philippine Islands for service.

—Dr. W. J. CAVANAUGH, of Worcester, N. Y. (A. M. C., '99), has purchased the practice of Dr. Lemuel Cross, of Cobleskill, N. Y., where he will locate in the near future.

—Dr. ARTHUR G. ROOT (A. M. C., '90), has been appointed by Governor Roosevelt to fill the vacancy in the board in the Rochester Industrial School.

MARRIED: SALMON-ASHLEY.—At Lansingburgh, N. Y., Thursday, December 21, 1899, Thomas W. Salmon, M. D. (A. M. C., '99), to Helen Potter Ashley. Dr. and Mrs. Salmon will reside at Brewster, N. Y., where Dr. Salmon is established in practice.

Book Reviews

Text Book of Ophthalmology. BY DR. ERNEST FUCHS, Professor of Ophthalmology in the University of Vienna. Authorized Translation by A. DUANE, M.D., Assistant Surgeon, Ophthalmic and Aural Institute. New York: D. Appleton & Company, 1899.

This treatise on the entire subject of Ophthalmology is a royal octavo volume of 860 pages; contains 277 illustrations. It constitutes the second American edition. The work is what would naturally be expected from its author, who is everywhere known, among those informed on the subject, as one of the ablest ophthalmologists. The translator is likewise a man of very superior attainments, whose possessions he has abundantly proved by his literary and clinical work. Neither author nor translator exploits any fads in this book. It is inevitable that diseases and their treatment differ somewhat, according to their geographical location; this naturally results from the variation in environment. Dr. Duane has fully allowed for this fact and has pointed out, in this American edition, the necessary differences between ophthalmology as seen in the Eastern, and the same science and art, as seen in the Western continent. The work is exemplary, as being free from typographical and other errors. Of course it is not absolutely so. The one concluding the first paragraph of page 764 might be bothersome, to one who had not a pretty firmly fixed opinion of the matter, already, but it is not likely to appear in any subsequent edition, as it has already been called to the attention of the publishers by the translator. This work is so nearly a leader in its class, and its class is so advanced, that it seems well nigh presumptuous for a reviewer to recommend it. It is entitled, however, by its merit, to high recommendation.

C. M. C.

Vol. xxi MAY, 1900 No. 5

ALBANY
MEDICAL ANNALS

Original Communications

FEVERS AND FEVER REMEDIES.*

By A. JACOBI, M. D., LL. D.,
New York.

The etiology of fever may be ever so obscure, or disputable, still there are a number of facts common to all its varieties. There is in every form of fever *some* degree of hyperthermy; both the heart beats and the pulse are accelerated, blood pressure is mostly low, and the number of respirations is increased. Consumption both of ingesta and of tissues (amongst which the volumes of the heart and of the brain are the last to be influenced either by fever or by inanition) is increased, more in fever however than in mere inanition. For while the absorption of oxygen increases in fever by only twenty per cent., the elimination of carbonic acid grows by from fifty to eighty per cent. Such is the case though it be cold water that depressed the temperature; but much more so in warm surroundings than in cooler ones. That shows how detrimental must have been the method of keeping fever patients warm.

The coloring substance of the urine which originates in the blood is increased twenty fold, the elimination of potassium seven or eight fold, that of sodium however is diminished, so that in pneumonia for instance there is almost none in the urine. Albuminoid disintegration is vastly increased, thus more nitrogen is eliminated. Urea, the daily amount of which in the normal man is thirty grammes, during starvation ten, during copious introduction of nitrogenous food sixty grammes, is eliminated while the food supply is scanty, in quantities changing from forty to eighty grammes daily, not only during the height of, but before and after the fever. Kreatinin and uric acid also are largely increased. Albumosuria is common both in infectious and in aseptic fevers, and is likely to be a common—perhaps universal—symptom which indicates danger. For albumoses seem to be the final results of albuminoids decomposed in the muscles and the liver by the fever generating substances that circulate in the blood. When they are rapidly eliminated through the kidneys, the danger is not great; when not, they paralyse or poison the nervous system and interfere with the innervation of the blood vessels and the elimination of the body heat.

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*Read before the Medical Society of the State of New York, January 30, 1900.

The vascular ganglia in the blood vessel walls are under the influence of the vascular centres of the spinal cord, these under that of the main vaso-motor centre of the medulla oblongata, and this again is controlled by the temperature centre in the cerebral hemisphere which at the same time regulates the intensity of metabolism. It is here that a puncture, or a trauma, or a tumor, or a local disease may rouse sudden or protracted temperatures. Whether there is, in addition to the centre that makes temperatures rise, another one that inhibits, remains to be seen. The assumption of its existence appears to be unnecessary.

Increased temperatures and increased metabolism are not however identical. For the latter when both production and elimination are equally increased may grow with normal temperature.

And there are surely fevers which result from diminished elimination during normal production of heat. The dangers of such condition depend upon the degree of vitality in the organs or the organism. Toxic fevers for instance while they increase metabolism, injure the power of resistance on the part of the cells.

Most fevers seem to be of microbic origin, but there are many exceptions to this rule.

Specimens of fevers not caused by microbic influences are those which are observed after childbirth when there is no endometritis or parametritis, but only a clot in the uterus; or in the presence of hæmatomata, or during the disintegration and absorption of exudations in protracted pleurisy or pneumonia or in ascites originating in tuberculous peritonitis, or during the absorption of tissue which many operators, and Farquar Curtis (*Medical News, June* 24, 1899) but lately stated to take place for days or weeks even in aseptic wounds though primary union be not disturbed (this occurs frequently in strumectomy, less so in operation on the mamma and after herniotomy); or those that follow shock either immediately or after a preceding subnormal temperature; or those that depend on the absorption of urine during nephrectomy, or of bile, or of thyreoid secretion; or those which happen during abstinence from water, or after venesections. In both conditions metabolism is increased with the result of furnishing the water which is wanting. Exacerbations of temperature after transfusion are also, in my opinion, the result of rapid decomposition and forced elimination or superfluous or rather unused material. The body temperature is raised during the absence of oxygen; metabolism is excessive and rapid when oxygen is wanting, as for instance in pneumonia where the artificial supply of oxygen can be made to relieve both metabolism and respiration. The same increase of body temperature takes place during muscular overexertion—the term muscular fever has often been given to this condition. It is easily explained when we consider that even under normal conditions metabolism is induced by disintegrating enzymes first in the circulating, afterwards only in the tissue-albumin, and in the carbohydrates when not quite firmly organized, and that this process takes place mostly during and in consequence of the contraction of the muscles. The inference on general hygiene need not be pointed out; except in this that without muscular exercise there can be no healthy body-economy. Most characteristic for the non-microbic elevation of temperature, however, are the fevers that follow catheterization, or those that attend the passing of gallstones, or the sudden transition from heat to cold on the cutaneous surface. In all of these cases we have to deal with a reflex irritation of the vasomoter centre and with contraction of the cutaneous bloodvessels. In these cases there may be and probably is some increased production of heat, but the main source of the fever should be sought for in the diminution of surface loss. This is normally brought about by conduction through the normal tissues, that is, by radiation, and the evaporation of water. These are stopped when the innumerable sweat follicles cannot act and be relieved under the influence of heavy or impermeable clothing or covering, or of excessive atmospheric humidity, and can be restored by the dilatation of cutaneous bloodvessels through artificial means. Diaphoretics are here indicated, and are aptly supported by derivants, i. e., diuretics and laxatives. Before our minds were both enlightened and clouded by such bacteriologists as claimed the earth for exclusive microbic etiology, and by their followers who are still nothing unless in the fashion, there were, though with less accurate knowledge it is true, great physicians with good observing powers. They treated such fevers on the above-mentioned s. c. metasyncritical methods, a name dating from Galen So do we though some of us do not admit it. The disadvantage of the method was only in this, that while the difference between non-microbic and microbic fevers was not substantiated, the same method was applied to all of them. Thus it happened that infectious fever cases were smothered under heavy downs, drowned in hot teas, and exhausted by intestinal draining.

The reduction of increased temperatures has been attempted in different ways. A direct action against the source of fever was attempted with very indifferent results, by administering antiseptics, that was when antiseptics and antipyresis were considered identical—an assumption which is not demonstrable as yet. A second method consisted in the use of remedies which were meant to paralyze the organs of circulation; but digitalis, veratrum, etc., require very large, indeed too large doses, to have that immediate effect. The third method, which is more effective, is directed upon the locality of the production of heat, viz., either the cells of the tissues, or upon the heat regulating centres in the brain and medulla. Quinin seems to act on the cells, most of the other antipyretics appear to reduce the temperature of the body by the increase of heat elimination. through hyperæmia and perspiration.

Thus the general indications of anti-febriles are various. They may be given for the purpose of killing or paralysing microbes, or of annihilating the effect of their toxins; of reducing the action of the temperature centre and the increased metabolism, and thereby preventing excessive inanition and exhaustion; and of increasing the surface loss of temperature with the effect not of reducing metabolism but of relieving somnolence and other cerebral dangers, thereby adding to the comfort of the patient, diminishing the period of actual danger, and thus reducing mortality. At the same time the danger of diminishing the alkalescence of the blood is averted and the degeneration of the tissues precluded. The latter end is perhaps best attained by the use of mineral acids.

Can we kill microbes in the blood or the tissues? Perhaps. We may do so by antiseptics given in doses sufficient to kill the patient, if that patient be a child, so much the worse for him. Is it *necessary* to kill them, or is it sufficient to paralyse them? The latter is a possibility since Prodden succeeded in so doing by administering largely diluted carbolic acid.

Whether protracted dosing with bichloride of mercury has some such effect as I so fondly hoped that I still practice it in many forms of infectious fevers, remains to be seen. The effects of toxins may surely be counteracted by antiseptics in the accessible cavities, the occasional objections of bacteriologists to intestinal disinfection notwithstanding.

Moreover, that diluted antiseptics, even when but temporarily employed, have a beneficial effect, is visibly proved by the effects of wound irrigation. Zimmerman's experiments made under Kocher's direction which proved that, have always been sustained by what every operator knows. Though antiseptic irrigations may irritate a wound and cause a secretion, still they cause no suppuration; and the vital energy of the cells is not injured by them; and finally wounds may and will heal though they be not entirely free of microbes.

Of late some soluble silver salts have been proclaimed as the sheet anchor of antisepsis in many forms of septic fevers.

B. Credé's first publication* on "Silver and Silver Salts as Antiseptics" appeared in 1896. That pamphlet was followed by many journal articles since, also by a paper read by him during the meeting of the Moscow International Medical Congress in 1897. His experience with them extends over many thousand cases and has often been renewed and extolled by observers of all countries. His followers are sometmes more enthusiastic than he is himself though his own convictions approach sometimes the fervor of fanaticism. Credé first tried the lactate of silver (in the trade called actol), and the citrate of silver (itrol), which are non-poisonous and efficient antiseptics, but require too large dilutions for subcutaneous injections and cannot be employed in strong solutions on account of their forming insoluble combinations with the albumin of the tissues.

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*Compare Klinisch-Therapeutische Wochenschrift, 1898, Nos. 14 and 15.

So he applied to chemists who produced for him metallic silver in fluid form changing in the body into the antiseptic salts. This "colloidal silver" is almost entirely soluble in water and albuminous fluids, and apparently hinders the development of and destroys certain pathogenic germs, viz., staphylo and streptococci, to such an extent as to very often effect a rapid and absolutely surprising cure in recent cases, and also in chronic ones, such as slow sepsis and furunculosis, where secondary changes of vital organs, such as abscesses, or gangrene, have not occurred.

The first form of the drug recommended by Credé was an ointment which goes by his name containing fifteen per cent. of metallic silver, three grammes of which are a dose for an adult, one gramme for a child. It takes twenty or thirty minutes to be fairly well rubbed into the skin. In average cases a single inunction, in severe cases several, in chronic cases from five to twenty inunctions were required to cause a decided improvement in the symptoms.

The internal administration of colloidal silver is resorted to mainly where there is a contraindication to inunctions. Credé orders pills of 0.01 with 0.1 of milk sugar, with glycerine and water, two of which are taken two to three times daily. Improvement is said to be immediate. Chronic cases, for instance tuberculosis, require one pill twice a day. No argyriasis was observed after many months.

For subcutaneous use a solution in 200 parts of water was employed for fungous and tuberculosis processes in which it is customary to make iodoform glycerin injections. The dose is from one-half to two grammes every week or two. Externally it may be used in a solution of one in 5,000 to 10,000; solutions of one in 2,000 are said to prevent the growth of staphylo and streptococci in the culture tube.

The internal administration of colloidal silver meets with difficulty when the stomach is acid. In that case the drug is decomposed. This does not occur with egg albumin, which is prepared by bottling the white of an egg with equal parts of glycerin. The prescription is one to four parts of colloidal silver, 200 to 800 parts of distilled water, egg albumin one to four; a tea or a tablespoonful three times daily with a glass of water. Sugar may be added. Rectal and intravenous administration has also been resorted to.

This is the preparation which is claimed to relieve or to cure phlegmon, lymphangiectasis and lymphadenitis, phlegmonous angina, fœtid bronchitis, peritonitis, furunculosis, erysipelas, puerperal fever, gonorrhœal and articular rheumatism, tuberculosis, scarlatina, diphtheria, typhoid, gonorrhœa, etc. At all events this is the class of cases in which that soluble and non-injurious antiseptic is expected to be serviceable, and there are many reports that appear to prove the justifiability of its claims, at least to a certain extent. The careful practitioner who has seen many rockets to rise like stars and to descend like sticks, will do well (to judge from what I have seen myself), to try the colloidal silver for what it may be worth. We have all been looking for a soluble antiseptic which would kill cocci and toxins without harming the tissues. In this drug we are promised such a material. We are not bound to accept the dicta of enthusiasts bent upon writing an article that will carry their names through the ephemeral literature of a brief half year. On the other hand we need not condemn like Conrad Brunner and Carl Meyer, who in a big book lately proved to their satisfaction that the claims of Credé were not at all sustained by the facts. That happened this way. Credé expressed the hope that bacilli would be as amenable to the action of his silver preparations, as cocci, and was once led away to say that "all microbes were killed by colloidal silver in five minutes." Our clever authors found that lactate of silver (not the colloidal) one in 1,000 could not kill anthrax in three days, and the citrate did not destroy staphylo coccus aureus in sixty minutes. They need not have disproved what was not claimed. My own experience is limited to a few cases of phlebitis, puerperal fever, and pyæmia. I am sufficiently impressed by it to make further experiments, not relying on colloidal silver alone, but supporting it with aid of stimulating and supporting treatment, and that of the knife in appropriate cases.

The temperature centres may certainly be influenced; they may as I intimated be paralyzed even by large doses of digitalis and veratrum, and by excessive doses of phenol preparations. But the temperature is not only regulated by the centre but also in the periphery. The effect of quinine as I said before is local in the cells and remains evident even after the section of the spinal cord, while the phenols appear to act both on the centre and on the surface. The latter which regulates the loss of temperature, exhibits hyperæmia and perspiration. Phenols exert their influence even when the lower part of the cortex is irritated by a puncture, and show a general influence on other cerebral centres, for instance by promoting analgesia.

There are those who object to the use of antipyretics altogether on the ground that high temperatures, mainly those of the infectious fevers, are required for the formation of antitoxins, and thus for recovery. There can be no doubt that even the apparently worst cases may get well spontaneously, those of typhoid for instance, or of cholera or of plague. It is said their high temperatures kill bacilli and form antitoxin. But this killing is an unreliable postulate. While they form toxin, they need not be themselves destroyed. Typhoid bacilli outlive their toxin, and their possible antitoxin. And indeed if they succeed in killing bacilli they kill cells also; with the unwelcome tenants the suffering host. If according to that theory they develop antitoxin after awhile, that while is often too long for the muscles and nerves and epithelia to endure both the heat and the disintegration. Wait for the beneficent effect of heat in sunstroke and you have a corpse to take care of. If typhoid and plague get well it is not the persistence of high temperatures that saves one-half or less, it is the vitality of the patient which endures and overcomes it all. Indeed the mortality rises with the height and permanence of temperatures. These however may be ever so high; provided they are interrupted, they are endurable. Pneumonias and typhoids with fair *remissions* permit of favorable prognoses. While plague with *persistent* temperatures kills fifty or sixty per cent., relapsing fevers of long duration, and with very high temperatures, have a mortality of only two or three per cent. because they have long intermissions.

Continuous hyperthermy does not only as Marfan says show the presence of danger as indicated in the condition of the pulse, in the presence of thirst, asthenia, dry mucous membranes, inactive liver, defective excretions, and depressed or excited cerebrum, it is a danger by itself, and should be fought by water, or by chemicals, as the case may be, until the danger line is recrossed backwards in the direction of a euphoric condition of the sensorium, of appetite, of respiration, and circulation and diuresis.

The multiplicity of the causes of fever prove its nature. It is not an entity but a symptom, the treatment of which should not be guided by iron-clad rules. Rises of temperature are not by themselves injurious, on the contrary there are those which seem to have as suggested before an immunizing effect. At all events a temperature which may be an annoyance or a danger to one individual, is an indifferent matter to another; and a temperature which is badly tolerated on the first day of an illness, may be easily borne later on, and vice versa. It all depends on the patient, not on the thermometer. Besides some causes of fever will prove temporary, others permanent; while for instance some of the bacilli are dangerous a certain time only, other microbes like plasmodia, become the more detrimental the longer they remain undisturbed. Thus in the treatment of many fevers it is their causes that require consideration; in others however their relations to, and influence on the body are the main consideration. When the condition of the latter is fair, and no danger is incurred by the fever, it should be left alone; when the rise of temperature, however by itself is injurious, it should be interfered with. At all events however, the treatment of the symptom "fever" gives us no hope of shortening the disease in which it occurs or of which it forms a part; on the other hand, it is a satisfaction to know, that while we increase the comfort and diminish the immediate dangers, the natural healing process is not disturbed. In this way both the justification and the limitation of the so called expectant treatment become evident. To allow a high temperature to deteriorate tissues and exhaust the heart or brain, is as injudicious as is the custom of emphasizing the number of degrees of Fahrenheit as the only valuable part of a morbid process. To be satisfied with depressing temperature is a grave mistake, but to allow pneumonia to run its deleterious course of high temperatures unchecked with their full influence on the rapidity of respiration and the action of the heart and on the increase of waste, is equally injudicious.

In their injurious influence on nutrition protracted fevers act like direct losses or like starvation, or rather more than these. The younger the patient, the greater is the danger from that source. That is why a high temperature without any or trifling remission should not be allowed to last, though its immediate effect may not appear very ominous. When a high temperature results in a convulsion we never hesitate to reduce it; here we admit there is a vital indication. Why, then, not reduce it while there is the danger of a possibility or probability of their occurrence? I dare say however that more infants and children die of the slow results of protracted high temperatures during what is called convalescence than there are destroyed by their effects in the onset of the disease. This danger may be averted by early attention to very high temperature. Amongst the tissues the blood is injured at an early date.

An acute anæmia is more easily overcome than a chronic one which undermines the vitality and strength of all the organs while it slowly robs them of their nutrition. To this latter class belong those anæmias which result from such diseases as are attended with sudden losses, high fevers, and starvation. It is mainly infants that when thus stricken recover but slowly or not at all, the less so the younger they are. Young animals resist starvation, which acts similarly to infectious fevers, to a less degree than old ones. A dog two days old bore starvation in Magendie's laboratory two days only; a dog of six years, thirty days. Similar results were obtained on pigeons, by Chossat. Thoroughly anæmic and delicate babies, having become so by a protracted disease and ill-nutrition, rarely recover, entirely, like starving young animals that never obtained this normal condition though they were carefully fed afterwards.

Add to these facts the disposition of the young to inanition which is caused by two main factors. The first is their rapid metabolism, the second and principal one is the relative almost universal insufficiency of the young organism. Without my going into details, its blood is less in quantity compared with the adult. In the former the relation of its weight to the total body weight is 1 : 19.5, in the latter 1 : 13. This blood in the young has less fibrin, less salts, less hæmoglobin (except in the newly born), less soluble albumin, less specific gravity (1.045-1.049 : 1.055 in the adult), and more leucocytes than in later life. All of which suggest the facility with which hydræmia is developed by injurious influences.

Moreover we should not forget that most of our antipyretics are at the same time nervines, analgesics and diaphoretics, thus improving comfort and metabolism. They are surely indicated when bathing is not sufficiently efficient; in that case they may act as adjuvants, as combinations, and procure sleep and remissions; or when baths are contraindicated, as in most cases of intestinal hemorrhages, in peritonitis, in utter cardiac failure, and when the extremities are persistently cold. If I add that there are, however, contraindications to the use of medicinal antipyretics because of possible idiosyncrasies, and of the debilitating effects many of the antipyretic drugs are apt to exhibit, I merely say what all have experienced, and what everybody should remember, viz., that no degree of Fahrenheit, and no Greek name of a morbid process are the subjects of our medication, but an individual patient.

Quinin affects bacteria but little, those of anthrax for instance in a solution of 1-625 only. In water solutions of quinin fungi will grow as shown microscopically by their increasing turpidity. Only infusoria and turbellaria are influenced by solution of 1 : 20,000-100,000. It diminishes the metabolism of albuminoids and the amount of uric acid, also the number of circulating leucocytes and their ameboid movements. In normal conditions it reduces the daily oscillations of the body temperature, in abnormal ones the latter is affected quite gradually in accordance with the absorbability of the drug, the elimination of which commences within half an hour, and is finished within twenty-four hours after its administration. In small quantities it accelerates the pulse and increases blood pressure, in larger ones occasionally even in relatively small doses, it may cause uticaria or other exanthemata or renal irritation with albuminuria or hematuria; it also diminishes, as Piorry showed first more than fifty years ago, the size of the spleen, not however through any effect on the central nervous system, for the same effect is obtained when the nerve has been previously cut Nervous symptoms such as tinnitus and difficult hearing and impairment of sight, even collapse and convulsions with affection of the centres of respiration and circulation, are also rather original disorders of circulation than of innervation.

In fair doses it is certainly antipyretic. When now and then in malaria infection a single large dose has been observed to *cause* an attack (sometimes the very first), this should be attributed to the rapid contraction of the spleen, which has the effect of suddenly deluging the circulation with the bloodcells containing plasmodia that were stowed away in the sponge-like tissue. It is the same observation I have sometimes made, under the same circumstances, and described in the *Transactions of the Climato-*

logical Association of 1898, when administering ergot in cases of chronic malaria infection without previous chills.

Besides malaria, feverish diseases with a remittent type such as typhoid fever, and pneumonia with a marked morning remission are mostly amenable to the antipyretic action of quinin. If at all it should be given during the remission. In malaria it should be administered during the period of sporulation, that is from three to five hours previous to an attack, but not as Golgi and Koch recommended, in the decline of the paroxysm, when the parasites are large. The sporules are most easily killed, the young ameboid forms of the plasmodia are more obstinate, the crescent (Sizygia) varieties however should be treated with more frequent doses.

In accordance with his rule, according to Golgi, Marchiafava and Bignami, the tertian malaria fever is readily influenced by the administration of quinin just before the paroxysm in such a way that the following paroxysm is either prevented or delayed. In the quartan type when administered four or five hours before segmentation ("sporulation"), it readily kills the young forms, but not the adult, so that the following paroxysms are not interfered with.

It is desirable to secure prompt absorption which is retarded when there is vomiting, diarrhœa, gastric catarrh or obstinate constipation. Now and then the combination with bitters and tonics acts favorably under such circumstances. It is here perhaps where Beverley Robinson and others have their principal successes with the tincture. in preference to the salts of the alkaloid. Absorption is certainly aided by the addition of diluted alcohol, or of spices. That regard should be had to the taste of medicines, is self understood in the cases of infants and children, and not infrequently solubility has to be sacrificed in the interest of taste. In very urgent cases the subcutaneous and intravenous administration yields the best results; then the solutions must be neutral. The carbamide (bimuriate with urea) may be injected into the subcutaneous tissue in warm solution of one to four or five, muriate of quinin three parts, with antipyrin two parts, with enough water to make six parts, is highly spoken of as painless and not liable to cause necrosis. That painlessness I have not been able to confirm My preference is for the bimuriate with urea.

Ointments containing quinin were recommended by Semanas sixty years ago. Many years afterwards I have often employed them, but gave them up because of the uncertainty of absorption and the impossibility of determining the dose. The oleate of quinin should not be used because of the irritation caused by the oleic acid. If ever the practice of inunction should be revived, the ointment should be compounded with lanolin, and the inunction be made into the moistened skin.

Rectal injections of quinin solutions should not be acid; the bisulphate, muriate, bromide, or the bimuriate with urea, all of which are very soluble, should be employed in that way.

The internal administration of quinin during the height of the fever temperature should be avoided, unless there is a case of pernicious fever with no or little remission, if only for the reason that absorption becomes more doubtful with rising temperatures. That is why stomach and bowel medication in all sorts of diseases with high temperatures becomes unreliable and subcutaneous application has to take its place. In regard to the estimation of the temperatures in malaria the diagnosis may moreover become uncertain if we rely on the appearance of a chill, which, if at all met with in the young, does not always correspond with the highest temperature.

In internal medication, while absorbability should first be considered. the question of palatability is important The greater the solubility, the bitterer is the drug. That is why the muriate, and the bromide which has the advantage of causing cinchonism to a lesser degree, are objectionable in infancy and childhood. Older children may be able to swallow capsules, which however are sometimes not dissolved and may be picked out of the stools. The neutral tannate is rather tasteless and in doses of 150 per cent. larger than those of the sulphate will generally be well taken. Most of us will be best satisfied with administering the sulphate, the taste of which can be covered by syrup of coffee, by chocolate, or the elixir adjuvant, or that of Yerba Santa. It is important to recollect however that if quinin sulphate is kept on hand in the elixirs, some of it will dissolve and be repugnant. That is why the powder should be mixed immediately before taking. A number of children fond of chocolate I have seen greedily eating the sulphate when mixed with copious quantities of that material, to the satisfaction of all parties concerned.

When remissions are very short, or when there are almost none, as in the abdominal fevers, or in many cases of the deceptive quotidian fevers of the very young, it is a good plan to reduce the temperature, if only for the purpose of improving the chances of absorption, by adding an occasional dose of antipyrin to the quinin.

The temptation to let up on medication when the fever in malaria has subsided is very great. The result of that mistake is a perpetuation of the illness, and of relapses. To avoid them, and to get rid of patient and fever with a single prescription I always follow a fixed rule Provided the patient has a tertian fever, he takes his dose—a child of two years, 0.2, an adult, 0.6-1.0 a few hours before the expected attack.

He takes the same dose on the third day, perhaps also one on the fifth, the next on the ninth, on the fifteenth, on the twenty-third, on the thirty-third. That plan is effective; there is no return of the fever *and* no return of your fee. When the tpye is quotidian as commonly in infants, and frequently in children, there must be some little modification of the general plan.

Malaria fevers are amongst those whose origin is known, and which are most accessible to successful treatment by quinin. Still there are acute, but mostly chronic cases, of malaria that are not conquered by it. In such cases I have had good results with ergot these forty years, and communicated my experience to the American Climatological Association in its meeting of 1898. (See *Transactions* and *Medical News, October* 22, 1898). The results of my observations are laid down in the following conclusions:

1. There are cases of chronic intermittent fevers with large tumefaction of the spleen, that after having resisted the action of quinin, arsenic, methylene blue, eucalyptus, and piperin are benefited by ergot.

2. When enlargement of the spleen is not old and not firmly established the contracting effect of ergot is noticed within a reasonable time.

3. The attacks will disappear before the diminution in the size of the spleen is very marked.

4. Though temperatures after the employment of ergot, remain irregular and now and then somewhat elevated chills, as a rule, are not noticed with this elevation.

5. Plasmodia do not seem to disappear from the blood so rapidly as they do after quinin, when the latter is effective. But even while some are still present, the attacks being more or less under control, the patient will feel better.

6. Complicating local pain requires additional treatment with ice, or cold douches, or heat; chronic hyperplasia demands iodid of potassium or iodid of iron. Digestive disorders may indicate, as they often do, when quinin is expected to act before the employment of ergot, an emetic, or a purgative, or stomachics.

7. An experience extending over forty years in which I have used ergot in many instances, justifies me in asserting at least this much: that there are many cases of chronic malaria, apparently intractable, that will get well with ergot.

8. There are cases, occasionally, in which the return of elevations of temperature after the successful use of ergot makes the combination of ergot and quinin, or ergot and arsenic advisable, though quinin and arsenic had not been successful previously.

9. Ergot, like quinin, probably by its sudden contracting effect on the spleen, and by the forcing of large quantities of plasmodia-laden blood into the circulation, is, in chronic malaria when hydremia and spleen tumor are excessive, capable of bringing on the very first attack of chills and fever.

10. Recent cases of malaria have got better, or were improved under the extensive use of ergot, but many resisted a long time; that is why acute cases should rather be treated with quinin.

Salicylic acid is both an irritant and an antiseptic. (Because of this latter property it is employed in medicine and in trade; for the preservation of foods; in excessive perspiration, both as a powder—modified by ninety-seven per cent. of bismuth subnitrate or talcum, or as a two per cent. ointment. It is eliminated through the kidneys either without any change, or as salicyluric acid.) Its physiological effect is that of a sedative, or of a paralyzing agent for the nerve centres of respiration and of the heart; it shows the inhibition of temperature loss and causes peripherous hyperæmia and perspiration. Its effect is certainly different than that of quinin (which acts through a direct effect on cell metabolism) in as much as its albuminoid metabolism is larger by twelve per cent. and its elimination of uric acid larger by from thirty to forty-five per cent.

Its irritant quality made the acid objectionable for internal administration. That is why the salicylate of sodium first introduced in 1874 by Kolbe and employed in acute rheumatism in 1875 by Busse has taken its place for an antipyretic first for general purposes, and when here it was superseded, in polyarthritis where it is about as efficient a specific as quinin is in malaria poisoning, both as a preventive and a curative.

What I said of the different mode of action of quinin and of salicylate of sodium explains a fact to which my attention was called at an early time. In many cases of pyæmic fever, in septicopyæmia, or in mixed pulmonary tuberculosis, when either quinin or the salicylate were given singly, proved ineffective, the combination of the two would have a happy effect.

Its use is not limited to internal administration. When used in ointments and applied to rheumatic joints, it may appear in the urine within one-half of an hour (like methyl salicylate "artificial oil of gaultheria") when one or two teaspoonfuls are applied to a joint; or like salicylic acid one part, made into salve with lanolin one, oil of turpentine one, and fat ten parts).

Antipyrin when employed during normal conditions increases the tension of the pulse and blood pressure—therefore it is contraindicated in hæmoptysis—and produces perspiration. Locally it is slightly antiseptic, moderately anæsthetic and markedly styptic; in the subcutaneous tissue irritating. It acts more on the general central nervous system than on the centre of circulation, that is why it acts—while being antipyretic—as a sedative and analgesic. But it should not be considered as a nervine, for its action appears to be *ushered in* through the mediation of the blood and blood vessels. The peculiar exanthem resembling measles, vesicles about the mouth and genitals, local œdemata in face and larynx, catarrhs and hemorrhages, all of which are seldom encountered after the first dose, the occurrence of local relapses, and occasionally of persistent pigmentation, finally the presence of antipyrin in the contents of the vesicles, seem to prove the presence of alteration in the walls of the blood vessels.

The body temperature begins to decrease within fifteen or twenty minutes after the first dose; to render its antipyretic effect more tangible and persistent, it should be followed by a second within two hours. This rule however does not hold good when the drug is given for its sedative or analgesic or for its slight anti-rheumatic effect. The unusual occurrence of temperature elevations which are observed, as they also are in exceptional cases of quinin administrations, should be explained by an idiosyncratic paralyzing effect on the temperature centre.

In many feverish diseases of the cranial contents antipyrin appeared to me to be inactive. Whether this experience of mine is universal or whether this inefficiency of the drug is met with in certain cases only, and in which ones, I do not know yet.

The salicylate of antipyrin, called salipyrin, has in twice the doses of antipyrin its antipyretic effect, and is frequently better tolerated than antipyrin, particularly by neurotic or neuralgic patients, because of the relative absence of accidental effects.

The only consoling feature in the action of acetanilid (called antifebrin by the patentee) is in that it does not disturb either stomach or skin to the same extent as some other antipyretics. It should however never have an opportunity to do so, for it should never be used. Being a derivative of anilin it is poisonous. Not only has it a sedative or rather paralyzing effect on the central nervous system, but it destroys the blood and causes anæmia by changing hæmatin into methæmoglobin. That is what gives rise to the orgosis which is so frequently observed. This poisonous effect is even noticed when the drug is used externally, mainly on the young; specimens of such cases were reported to the meeting of the Philadelphia Pediatric Society on April 11, 1899, by Drs. Thompson S. Westcott, Jand and Branson.

Phenacetin resembles acetanilid, but it is very much milder in its effects. The transformation into methæmoglobin takes place in large doses of several grammes only. Half-gramme doses for antipyretic, gramme doses for analgesic purposes are recommended in adult cases. I believe they are excessive and unnecessary. In hospital cases, the best for correct observation, I never ordered adults more than two decigrammes (three grains) as a tentative or first dose; the doses to be given to infants and children should be from fifteen milligrammes to three centigrammes (gr. ¼-½).

Lactophenin's praises have been sung not only by the manufacturing patentee, but also by clinicians such as von Jaksch. Jaundice I have seen once after its administration; other cases are reported.

Alcohol has a great advantage over all antipyretics, indeed over all ingesta, by its rapid absorption in the stomach which as a general rule is more of a receptacle than an organ of absorption. When we consider that a dose of 15.0 of alcohol is liable to prove fatal to a child below ten, the question whether it should be used at all is a grave one. Indeed there have been fanatics like a professor of physiological chemistry in Switzerland who is opposed to the use of alcohol under any circumstances. Not a thousand miles from here, this side of China, there is a practitioner who proclaims that the doses of alcohol given by his esteemed colleagues are in exact proportion to their ignorance. Sarcasm however, is not wit, and epigrammatic sneers no medical common sense, nor is the whining cant of Courtier-Suffit, in the November issue of the *Archiv. Generales,* 1899, apt to impress a thinking practitioner while dealing with the dangers of an infectious disease.

Small doses of alcohol—I always speak of diluted alcohol—diminish the vascular tone of head and skin. That is why Bunge in Basel is so frightened and speaks of the merely paralyzing effect of alcohol. The action causes a congestion to the brain, often also frequency and fulness of the pulse (like that of the nitrites), and congestion to the skin with increased sensation of warmth. In that way by dilatation of the cutaneous vessels and thereby facilitated radiation, perhaps also by the reduction of heat production the temperature of the body falls. In large doses alcohol is, therefore, an antipyretic (Binz), the doses should however not be measured by those acting on the well, nor should its mode of action in the sick be compared with that in the well. The same doses have different effects on the sick and well. Abbott found for instance that an acute alcoholic intoxication made rabbits very amenable to the effect of streptococci (more so than to that of bacterium coli or staphylococcus aureus). What does it prove? Indeed nothing else than that an organism weakened by alcohol behaves to streptococci exactly as an organism weakened by debility, or by starvation. It is not alcohol that makes the organism submit to the coccus, but its weakness and lack of resisting power.

By feverish patients alcohol is exceedingly well tolerated. In the average aseptic fevers it is rarely required, at least in their early stages, but in infectious fevers, mainly diphtheria, bad forms of erysipelas and sepsis generally, the doses both tolerated and required may look excessive to the inexperienced. There is no better antiseptic than alcohol beverages. I claim as one of the most meritorious facts in my professional life, if there be any, to have proclaimed long before the time of most of you the necessity of giving large doses of alcoholic dilutions in the grave forms of diphtheria; indeed every case may be or become grave. There is almost no dose that is not well tolerated. What I have observed, and written these forty years, still holds good. Septic cases, with high fevers (also others so septic as to exhibit collapse), that will not improve after 100 or 200 cubic centimetres of whiskey daily, are apt to do well with two or three times the dose, which however will cease to be tolerated as soon as the septic fever has passed by. Indeed I have seen such septic children of three or four years take 500.0 of whiskey a day, which had no bad influence on the brain while the sepsis lasted, but would cause alcoholic delirium as soon as convalescence began.

For a marked antipyretic effect rather large doses of alcohol are required; that is why it should not be given except in sepsis when the reduction of temperature—while necessary—can be obtained in other ways. There is no reason for instance why the first stages of pneumonia should be treated with alcohol. At that time inanition is not yet threatening, and therefore the indication fulfilled by alcohol in moderate doses, viz., to avoid the disintegration of albuminoids and of fat, does not yet exist. It is only in later stages, and in chronic diseases, when starvation is threatening, that diluted alcohol, which is readily absorbed in the stomach and therefore quicker in its action, is of the greatest value. Besides, four per cent. of alcohol is eliminated through the lungs, while they are in extensive congestion and overexertion, they should be spared the additional labor of elimination. I give no alcohol in the first stage of pneumonia.

Other organs which are stimulated and irratated by alcohol, should not be endangered by it when inflamed. On the kidneys alcohol acts as diuretic by that stimulant effect, and is contraindicated in all forms of acute or subacute nephritis. In fevers connected with brain diseases it should be avoided as a rule, like caffein for instance, but the presence of a high temperature does not contraindicate its use when the main cerebral disturbances, delirium, or coma, are the result of sepsis.

110 WEST THIRTY-FOURTH STREET.

For the ANNALS.

THE PRACTICAL VALUE OF THE PRESENCE OF LACTIC ACID IN THE GASTRIC CONTENTS FOR THE SURGICAL TREATMENT OF DISEASES OF THE STOMACH.

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Ewald[1] at the International Medical Congress in Moscow gave his experience in regard to gastric surgery, especially in malignant growths. Since in the consideration of the early diagnosis of carcinoma he spoke of the value of lactic acid and distinctly stated that this symptom, in spite of all which had been written, had not sufficient significance and importance, it would be worth the while to again briefly indicate the practical value of the presence of lactic acid in the gastric contents for the surgical treatment of diseases of the stomach.

Ewald stated that it has been shown that for the early diagnosis of carcinoma, i. e., a tumor not yet palpable the determination of the presence of lactic acid in the gastric contents is alone not sufficient, and that in the majority of the cases the production of lactic acid occurs later than the palpable tumor. Further it is commonly absent in tumors of the curvatures or of the fundus and at times occurs in cases which are not carcinomatous. In short the formation of lactic acid is not a specific symptom but depends on the concurrence of different factors, the failure of the hydrochloric acid secretion, of the peptic digestion and the stagnation of the fermenting ingesta in the stomach. He even believes that in the special cases where a non-palpable tumor at the pylorus was diagnosticated from the presence of lactic acid and found, it was not the determination of the presence of lactic acid alone but the combination of the other symptoms present which was indicative of the diagnosis. To fortify his position he cites a case where in spite of the concurrence of gastric dilatation, failure of hydrochloric acid and peptic digestion, positive and strong lactic acid reaction, the expected carcinoma of the pylorus was absent while a carcinoma of the gall bladder was discovered. On the other hand palpable tumors are not rarely observed without the formation of lactic acid but with the marked production of hydrochloric acid, carcinomata developing upon the base of an ulcer. In such cases a contracted scar of an ulcer is expected and a beginning carcinoma is found. Ewald concludes that the determination of the palpable tumor is the basis upon which advice to operate should be given. The early operation is dependent upon the early recognition of a tumor. All the facts which Ewald has brought forward are well known. Nothing can be said against them. The above resumé, however, which he deduces from these facts for practical surgery, is open to question and will be considered. If Ewald is properly understood he does not send to the surgeon cases showing constantly lactic acid but without palpable tumor because exceptionally at one time no carcinoma was found or a carcinoma situated outside of the stomach. In such a case he waits until a tumor is palpable. It hardly needs to be mentioned that this delay consumes much valuable time and that in many carcinomata the tumor is never palpable *intra vitam* but first found at the autopsy. For the understanding of this question let us again consider the condition under which lactic acid fermentation occurs.

Boas[2], who first drew attention to the practical diagnostic value of lactic acid, was in the beginning of the opinion that its presence indicated a gastric carcinoma. Not a few observations by Rosenheim[3], Klemperer[4], Bial[5], von Noorden[6] and others have however shown that Boas went too far and that the lactic acid fermentation occurs in the gastric contents of other affections than carcinoma of the stomach. Hammerschlag[7] has especially determined from a large material that lactic acid fermentation always occurs where there is a concurrence of stagnation of the stomach contents, of absolute failure of hydrochloric acid and of ferments (achylia). These conditions occur in carcinoma of the pylorus; first it produces stagnation, later achylia on account of the secondary atrophic gastritis which as a rule accompanies carcinoma. I[8] have draw attention to these conditions in a previous publication

What diseases besides carcinoma of the pylorus produce lactic acid fermentation, i. e., stagnation plus achylia? Of gastric affections, there comes into consideration the hypertrophic pylorus stenosis or stenotic gastritis as Boas[9] casually noted. The hypertrophic pyloric stenosis is the result of a very long continued gastritis atrophicans which by inflammatory action has induced a thickening of the pylorus. It is well known that achylia may exist for years without symptoms but as soon as the passage to the duodenum is obstructed the severest and most threatening symptoms may instantly appear. This is well illustrated by a case of gastritis gravis, observed by Rosenheim[10], which came to autopsy. The same clinical symptoms as in carcinoma of the pylorus—stagnation, lactic acid fermentation, cachexia—were present. These cases of gastritis complicated with a stenosis of the pylorus are very rare. Boas reports only three cases and to a hundred patients with carcinoma of the pylorus there will be at most only one case of gastritis with stenosis. However this possibility should be kept in mind in cases with stagnation and lactic acid fermentation. It will be seen that for the question under consideration it is of no importance.

There is still another condition, not affecting the stomach, which may in the same way clinically be confused with carcinoma of the pylorus. Fenwick[11] and others have determined that in the majority of cases of carcinoma of the internal organs an atrophy of the gastric mucous membrane occurs, the cause of which is not known. Thus in progressive pernicious anæmia an atrophy of the gastric mucosa is almost constantly found whether the cause or the result of this disease.

Therefore when a carcinoma of an abdominal organ, located close to the pylorus, at the duodenum, gall bladder or pancreas exerts pressure on the pylorus or the duodenum and produces an obstruction, lactic acid fermentation will occur in the stagnating contents as soon as the progressive cachexia induces an atrophy of the gastric mucous membrane. When such a tumor, while compressing the pylorus does not exceptionally lead to atrophy of the gastric mucous membrane then lactic acid will not develop in spite of the stagnation any more than it would in a benign duodenal stenosis after ulcer, gall stones, etc.

But these cases in comparison with the much more common pyloric carcinomata occur seldom. If special clinical symptoms relating to the gall bladder and pancreas, as icterus and glycosuria do not help in the differential diagnosis of these cases then clinically they cannot be diagnosticated from carcinoma of the pylorus. Practically it is for therapeutic purposes the same and does not modify the treatment a hair's breadth. In the very great majority of cases with stagnation and presence of lactic acid, the lesion is a carcinoma of the pylorus in about 98 per cent. and in the remaining 2 per cent. either a gastritis with stenosis or a carcinoma in the vicinity of the pylorus. The appearance of lactic acid in gastric contents by carcinomata of distant organs to which Klemperer[4] has drawn attention need only be mentioned since it would not be considered in differential diagnosis. Shall operative procedure then be deferred on account of these exceptions, which form about two per cent., so long as a tumor is not palpable as Ewald recommends?

The opposite is I believe the true course, since in these exceptional cases as well as in carcinomata of the pylorus the knife alone can bring improvement or cure. Without surgical intervention the strength will entirely fail, while an early radical or palliative operation will either produce a complete recovery or so improve the condition as to render life comfortable for years. This is especially true in the cases of gastritis with non-malignant stenosis as Rosenheim has shown in his case of gastritis gravis.

Whether in these cases a resection is still possible or only a gastro-enterostomy indicated will be determined at the operation in each case. Ewald says in this connection that nothing absolutely definite about the form of operation should be determined before the abdominal cavity is opened. We are therefore forced to the conclusion that in every case where lactic acid fermentation in gastric contents appears, operative procedure is indicated even when no tumor is palpable and provided that the strength of the patient warrants it. It makes no difference if a carcinoma of the pylorus is present or not. That many gastric carcinomata do not induce lactic fermentation, depends upon the fact that every carcinoma does not cause stagnation but only those which obstruct the passage to the intestines. Although lactic acid has lost its specific significance for carcinoma of the stomach, its presence remains of inestimable value as an indicator for surgical procedure. It is certain that a number of patients with gastritis gravis would be still living if gastro-enterostomy had been performed on the strength of the presence of lactic acid and not vainly postponed until the appearance of a tumor.

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ADDENDUM—AN ILLUSTRATIVE CASE

[The translator reports the following case which, coming recently under his observation, illustrates so well the subject of this paper as to make its addition of interest and confirmatory value.]

B. B., aet. 65, widower, native of Germany, butcher; entered the Albany hospital October 22, 1899. He had always enjoyed good health, with the exception of an attack of pleurisy two years ago, until the present illness began in April of this year. At that time he suffered from severe pains in the left side, profuse perspiration and constipation. As he did not improve he took a trip to Germany where the symptoms increased in severity. He had in addition great gastric distress and could not retain food although at no time did he vomit blood. Up to the time of entrance into the hospital he lost forty pounds in weight. His parents died from causes unknown to patient; two brothers and two sisters are living and well and one brother died from an obscure disease. No history of tuberculosis or cancer was obtained. Patient drinks beer moderately but smokes a pipe to excess.

Physical examination. Pulmonary note everywhere hyper-resonant; expiration prolonged but not raised in pitch; area of cardiac dullness diminished and pulmonic second sound moderately accentuated; liver displaced downwards; abdominal examination was otherwise negative and no tumor was detected in the region of the stomach. Both ankles were slightly œdematous; arteries not at all atheromatous and the pulse was 72, strong and regular. The urine and sputum were negative and the temperature normal.

Although he complained at times of much gastric distress and some nausea he vomited once only in the first four weeks after entrance. On November 14 examination was made of the stomach contents after a test breakfast and seeds swallowed the night before. The contents contained the seeds, lactic acid in large amount, many Boas-Oppler bacilli and yeast cells. No free hydrochloric acid was present, the hydrochloric acid deficiency was marked and sarcinæ were absent. The highly probable diagnosis of carcinoma of the stomach was made at this time based upon this examination and the general signs of malignancy, progressive emaciation and weakness. After this time the course of the disease in spite of symptomatic and dietetic treatment was markedly progressive. He vomited very frequently a dark brown liquid containing particles of food and lost flesh and strength very rapidly. On entrance his weight was 167 lbs.; Dec. 11, 158½ lbs.; Dec. 22, 152 lbs.; Dec. 30, 148 lbs.

Although frequent examinations were made to determine the presence of a tumor it was not until Jan. 4, 1900, that an ill defined mass could be felt midway between the umbilicus and the ensiform process, a little to the right of the middle line. Repeated examinations of the stomach contents gave results similar to those obtained at the first examination. He rapidly grew weaker and died Jan. 9, 1900.

Autopsy by Dr. Blumer, January 10, 1900.

Œsophagus wall covered with a slightly adherent whitish membrane.

Stomach contains partly digested food. The organ is much dilated. Mucous membrane, atrophic and covered with sticky mucus.

Surrounding the pylorus and infiltrating the tissue in its neighborhood is a rather flat ulcerated new growth, covering an almost elliptical area 9 x 6 c. m. in its diameter. This growth has firm elevated edges, and an ulcerated base covered with a grayish brown necrotic material. It has partly constricted the pyloric opening but has not completely closed it. Over peritoneal surface of stomach there is some puckering, and the fat in the immediate neighborhood is adherent to the peritoneum. No signs of new growth in this fat, nor do the glands in the neighborhood show definite metastases.

The peritoneal cavity is free from fluid. Both layers of peritoneum smooth and glistening. Omentum free from adhesions and normal.

Appendix passes upward and behind the head of the caecum. It has a mesentery to its tip. Length 8 c. m.

Foramen of Winslow closed by adhesions.

Spleen free from adhesions. Measures 14 x 8 x 4 c. m. Capsule somewhat wrinkled. Consistency very soft. On section pulp very much increased. Trabeculæ visible. Malpighian bodies only occasionally visible.

Liver free from adhesions.

Bile ducts patent. Organ measures 25 x 17 x 9 c. m. Surface smooth. Consistence rather firmer than normal. On section cut surface is rather irregular. Lobules are indistinct. There seems to be a slight increase of connective tissue between them. Gall bladder contains dark bile. Walls of mucous membrane normal.

Testicle, duodenum and jejunum slightly bile stained. Mucous membrane pale. Mucous membrane of ileum also pale.

Small intestines almost empty. Mucous membrane of large intestine pale.

The microscopical examination of the stomach showed the presence of a new growth, infiltrating all the coats of the organ. This new growth is of alveolar nature and consists of more or less gland-like spaces lined with columnar epithelial cells, often two and three rows deep. These alveoli vary in size and shape. The walls are made up in the mucous and sub-mucous layers of connective tissue, and in the muscular layer by the muscular tissue. The alveoli walls show in places marked infiltration with small round cells and in some places with polynuclear leucocytes. The peritoneal covering of the organ over the growth is much thickened. Microscopical examination of the liver shows absolutely no signs of metastasis. The lungs show the emphysema observed in the gross specimen. The liver besides the cloudy swelling shows slight chronic passive congestion with areas of necrosis. The other organs show nothing beyond what was made out by the naked eye examination.

Anatomical Diagnosis. Ulcerating carcinoma of pyloric end of stomach, involving pylorus. Emphysema of lungs. Hypertrophy of right side of heart. Cloudy swelling of liver with slight cirrhosis(?). Acute swelling of spleen. Cloudy swelling of kidneys. Slight atheroma of the aorta—very slight of coronaries.

Bacteriological Examination. Cultures were taken from the spleen, liver, kidney and lung. Culture from the spleen was entirely negative after 48 hours in the thermostat. Cultures from the liver and kidney showed some large yellowish colonies, which proved to be a contamination. The culture from the lung was thickly dotted with small, round, agar, translucent colonies. These proved to be cocci arranged in chains and gave the typical reactions of the staphylococcus pyogenes.

Bacteriological Diagnosis. Stapylocochcus infection of the lung.

THE ETIOLOGY AND TREATMENT OF TUBERCULOSIS IN CHILDREN.*

By JAMES W. WILTSE, M. D.,

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Mr. President and Gentlemen of the Society: My excuse for offering a paper upon the subject of tuberculosis after the extended discussion of the disease by the Society during the Session of 1898 and 1899 *must* be the *importance* of the disease both to the layman and the practitioner of medicine. A disease so universal in its distribution that it is found in every country, and whose mortality is nearly one-seventh of all deaths from all causes throughout the world, must always take a prominent place in medical thought and literature. Yet, in spite of its universality and the great amount of literature devoted to the subject;—in spite of the many points that have been elucidated and cleared up during the period extending from the discovery of the specific organism, the tubercle bacillus, by Koch in 1881 to the present,—the whole literature of the subject having been practically rewritten during that time—we still find the widest diversity of opinion among authors of prominence upon certain points. This difference of opinion is mainly found in connection with certain factors in the production and etiology of the disease. For that reason I have chosen the etiology of the disease for my subject, not with the hope of offering you anything original, but simply to bring some of these opinions together in one paper where we may contrast them.

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*The Vice-President's Address. Delivered before the Medical Society of the County of Albany, October 10, 1899.

CONDITIONS INFLUENCING TUBERCULOSIS.

Race: While no race is exempt from tuberculosis of the white races inhabitating the temperate zones, the English Hebrew seems to enjoy the greatest immunity. The negro race in this country since the abolishment of slavery has suffered more from the disease than before that event. One might infer from this that the negro was better quartered and cared for by his master than he has since been able to care for himself. However, this is only conjecture and there may be other influences that have produced this result.

Sex: I have been unable in the various text books consulted to find any reference to the influence exerted by sex upon the disease. Sir Samuel Wilks in an article contributed to the *Practitioner* for June 1898, points out and proves by statistics that there is a special proclivity in the male infant toward phthisis. He finds that during the first year of life twice as many males as females die of tuberculosis. In the second year three and one-half per cent. more males than females die; while during the third, fourth and fifth years the death rate from tuberculosis is slightly larger in the female than in the male.

Age: In considering the etiology of tuberculosis in children we shall consider the period from the time of birth until the eighth year. After that age the etiology is practically the same as in the adult. Confining ourselves to this period we find the greatest percentage of cases occur during the first year of life. Holt says tuberculosis is more frequent in infancy than at any later period of childhood. In a series of 143 cases in children ranging from three months to five years and over, most of which were confirmed by autopsy, fifty-seven cases occurred during the first year of life; thirty-nine cases during the second year; while only thirty-two cases occurred during the three succeeding years.

Frequency: Seibert found tuberculosis one of the most frequent diseases of childhood. Froebelius in 91,370 infants, of whom 18,569 came to the autopsy table during the first four months of life, found that 416, or four per cent., died of tuberculosis. Dr. Still, at the Sixty-seventh Annual Meeting of the British Medical Association, section for diseases of children, in a paper on "Observations on the Morbid Anatomy of Tuberculosis in Children," stated that in 1,728 consecutive *post mortem* examinations on children, tubercle was present in 269. Tubercle was most frequent during the first two years of life.

CONDITIONS PREDISPOSING TO TUBERCULOSIS.

Heredity: While there has been some variance of opinion in the past as to the exact influence exerted by heredity in tuberculosis, all authors have agreed that there is transmitted from tuberculous parents to their offspring a weakened resistance, or in other words a greater vulnerability to the tubercle bacillus. The later writers, however, have gone further than this and find that in certain cases tuberculous mothers have given birth to tuberculous children. Holt cites several such instances, and Ballantyne, in the *Supplementary Edition of Keating's Cyclopedia of Diseases of Children*, says, "During the last few years a rapidly increasing literature has demonstrated the correctness of the view that not only is the child born with a distinct predisposition to tuberculosis but that tuberculosis is also occasionally present at birth."

Wilks, while admitting that the exact nature of hereditary influence is not yet known, says there are three ways in which tubercle may be regarded as hereditary: (1) the direct infection of the child with the disease in an active state before birth; (2) the congenital infection of the organism or of its spores which may remain for a period latent in the system; (3) by the transmission of organs or of a bodily constitution peculiarly open to the attack by the bacillus.

LATENT TUBERCULOSIS.

Of late, writers on tuberculosis in children have reverted to the old theory of the importance of scofula in the production of the disease. L. Delmis says that latent tuberculosis is of very frequent occurrence in childhood and that we find tuberculous foci at autopsies that are not the cause of death. He believes that fifty per cent. of infants carry the germ of tuberculosis ready to develop, and calls attention to three points in the diagnosis of such cases:

(1) the general condition of the child; i. e., pallor emaciation, relaxed muscular system, transparent skin, long eyelashes, rapid growth, mental lassitude and abnormal brightness of the eye;

(2) micropolyadenitis;

(3) hypertrophied tonsils or adenoid vegetations in the naso-pharyngeal space.

Dr. Rossel of Berlin found that of children from one to ten years of age who came to Koch's clinic for treatment for diphtheria forty per cent. had latent tuberculosis and in twenty-six per cent. the disease was localized in bronchial and mesenteric glands. Volland examined 2,500 school children with the result that between the years of seven and nine he found no less than ninety-six per cent. had indolent multiple engorged cervical glands, which phenomena he held to be a pure tuberculous manifestation. Blos, of Heidleberg, on the strength of these findings, scouts at the idea of the diffusion of tuberculosis by the inhalation of infected air and drinking infected milk, and returns to the old theory that gland scrofula almost always precedes tuberculosis. Holt in speaking of tuberculosis following the acute infectious diseases, says that it is probably produced by the lighting up of a previous latent tuberculosis through the stimulus of a new infection. In *Pediatrics* for August 15, 1899, the editor says, "Recent investigations into the state of the cervical lymph ganglia in children appear to show that at about the period of second dentition bilateral multiple chronic polyadentis is almost universally present; and that there is no known agency capable of producing this condition in this latent form excepting the tubercle bacillus."

Obstruction in the naso-pharynx: Adenoid vegetations hypertrophied tonsils, etc., that obstruct the naso-pharynx and cause mouth breathing and nasal catarrh, are important factors in the predisposition to tuberculosis, not only because of the mechanical obstruction and consequent nasal catarrh and weakened condition resulting, but because a large percentage of these growths have been found to result from latent tuberculosis. Herman recognizes two forms of adenoid growths:

(1) primary, which is almost always due to a tuberculous taint;

(2) secondary, adenoid vegetations due to a coryza which becomes chronic, causing swelling of the turbinate bones, and eventually to hyperplasia of the pharyngeal glands. This restricts and finally prevents nasal breathing. Osler says bronchial catarrh is all important in the production of tuberculosis.

Hygienic conditions: Overcrowded, ill ventilated, filthy living rooms, and improper and insufficient nourishment play an important part in the production of tuberculosis. Not only living rooms, but school rooms and other places where large numbers of children are gathered, are frequently badly ventilated and contribute to produce tuberculosis. Dr. J. M. Emmett in a paper published in the *Annals of Gynecology and Pediatry* makes the following statement: "Many of our public schools as now conducted are veritable Black Holes where the children are dying of auto-intoxication. There could not be formed a better culture bed for the tubercular germs than in these children debilitated and with tissues starved through breathing devitalized and vitiated air."

ETIOLOGY.

The specific agent in the production of tuberculosis is of course the bacillus tuberculosis. The two most common routes for its introduction into the human organism are either through the respiratory tract by inspiring infected air, or through the alimentary tract by infected food. While there is no dispute as to the frequency of infection by the inhalation of air-borne germs, there is a great diversity of opinion as to the importance of the role played by food and more particularly milk. Some writers lay great stress upon the frequency of the tubercular intestinal lesions in children, while others claim that in very young children, in whom the diet must necessarily be almost exclusively milk, intestinal tuberculosis is very rare. Others, while admitting the presence of tubercular intestinal lesions, explain them by pointing out that young children afflicted with pulmonary phthisis invariably swallow the expectoration and that the intestinal lesions are produced in this way.

Sir Richard Thorne in a paper on the increased death rate in children under one year of age in Great Britain from tubercular meningitis and tabes mesenterica, attributed the cause to intestinal infection through tuberculous milk. Dr. Leonard Guthrie, of the Children's Hospital of Paddington Green, and Dr. Carr, of the Victoria Hospital, oppose this idea. Guthrie proves by *post mortem* records that tabes mesenterica is rare in children under two years of age, and is almost unknown in children under one year of age. Both Guthrie and Carr are of the opinion that the infection of tuberculosis in children is more frequently derived from the respiratory than the alimentary tract. In further support of his contention Guthrie says, "After all, the strongest point against milk as a producer of tuberculosis is that children of the class to which hospital patients in England belong seldom get milk from the cow. They are invariably fed condensed milk and cheap patent foods." Dr. Comby at the Fourth French Congress for Internal Medicine said, "A child becomes tuberculous by way of the respiratory organs and not through the digestive tract." In a series of cases in children under two years of age, studied by Dr. Still, he found 138 were infected through the respiratory tract and sixty-three by way of the intestinal tract or a ratio of two to one in favor of infection by air-borne germs. He says infection through the lungs is greater during this period than at any other time of life, notwithstanding that this is the time when children live almost exclusively upon milk. Holt says in infancy and early childhood infection through the respiratory tract is the rule, and adds, " Infection by tuberculous milk taken into the ailmentary tract is rare."

On the other side of the question Osler cites the fact that young animals, pigs, etc., sucking tuberculous mothers, have been found to have intestinal tuberculosis of the most typical form and says, "There is no reason to believe that children are less susceptible than calves and pigs; so that the danger from this source is real and serious," and adds, "The great frequency of intestinal and mesenteric tuberculosis in children no doubt finds here its explanation." Dr. Allan Macfayden says the proportion of tuberculous persons contracting the disease through food is probably greater among children than adults, and ascribes this to the fact that children are more susceptible to intestinal tuberculosis than adults and their diet being chiefly milk, they are probably infected by the milk.

From the preceding it will be seen that the status of milk as a producer of tuberculosis in the human subject has not as yet been definitely settled, even in the minds of the best writers.

TREATMENT.

Prophylaxis: In children of tuberculous parentage every effort should be made to strengthen the organism and increase the power of resistance to the tubercle bacillus. Herein will probably be found the most efficient means of lowering the death rate and saving the lives of a great number of children who otherwise would fall early victims to the disease. Prophylactic measures should be directed toward keeping the general health up to the highest standard. Such children should have plenty of fresh air not only in the home but they should spend a great part of their lives in the open air. They should have plenty of the most nutritious food. The milk supply should be investigated if the child is artificially fed, for, while this may not be so important as the air supply, yet every possible avenue of danger should be closed. They should wear flannels all the year around, should be protected from sudden changes of temperature, from the acute infectious diseases, whooping cough, measles, la grippe, pneumonia, bronchitis, etc. These diseases, either by still further weakening an already weakened organism, or by furnishing the stimulus to excite a latent tuberculosis, are potent agents in the production of acute tuberculosis. Frequent bathing and cold sponging to keep the skin active and stimulate the nervous system should be regularly practiced. Children who are mouth-breathers or the subjects of chronic nasal catarrh should be carefully examined for adenoid growths, hypertrophied tonsils or other obstructions in the naso-pharynx. If found, these growths should be promptly removed and the catarrh cured. Children of a scrofulous diathesis, which, according to some observers, is simply a passive form of tuberculosis, should be treated with remedies and by measures calculated to build up the tissues and eradicate so far as possible the scrofulous taint. Such remedies are the iodides, mercurials, iron, cod liver oil, etc. Aside from these measures for the treatment of this condition, sanatoria at the seaside have been inaugurated in some countries.

In this connection Professor Ewald at the International Tuberculosis Congress said: "The sanatorium for adults is after all but an episode in the warfare against tuberculosis," and that the fruition of the sanatorium idea would be found in prophylaxis, or in other words in the expansion of the children's sanatorium. In institutions of this sort operated at the seashore the victims of scrofula would be cured and all those naturally predisposed to phthisis would be so fortified by care and instruction that they would be in position mentally and physically to resist to the utmost their natural and hereditary foe. It seems to me that sanatoria for this class of cases serve a good purpose, not only by placing these children in better sanitary surroundings where they can have treatment specially adapted to the building up of their weakened organisms, but perhaps a greater service is performed for them by removing them from direct contact with tuberculous parents or other tuberculous members of the family.

Since the contagiousness of tuberculosis has come to be more fully recognized and the direct transmission of the disease from one person to another has been over and over again demonstrated, the importance of the destruction of the sputum from a tuberculous patient becomes more and more apparent. Therefore, children in families containing a tuberculous member should be kept from contact with such member as much as possible. The sputum from the one afflicted should be carefully collected and destroyed, all bedding should be changed often and immediately placed in boiling water, all vessels used by such members should be carefully cleansed and disinfected, and every measure used, so far as possible, to preserve strict asepsis.

The treatment of active tuberculosis in the child does not differ materially from the treatment of the same condition in the adult. What has been said of fresh air and nourishing food in the prophylactic treatment also applies here. If a change of climate is considered necessary, a warm climate rather than a high altitude seems best.

Drugs: Creosote, cod liver oil and guaiacol are the drugs most commonly used. While they have no specific action on the bacilli, if they improve digestion and increase nutrition, they strengthen the resistance of the organism to the bacillus and are in this way beneficial Guaiacol possesses an advantage over creosote in that it is indicated and can be administered at all stages of the disease while creosote is contraindicated when cavity formation and hectic are present. Jacobi is a firm believer in the benefits derived from the administration of arsenic either in the form of Fowler's solution or arsenious acid in small doses continued over a long period. Schmey recommends the use of cod liver oil and Peruvian balsam. Curasso advocates the inhalation of oil of peppermint and the internal use of creosote.

I shall say nothing of the symptomatic treatment of the disease except to advocate the use of small doses of heroin, where a sedative for cough is required, in preference to any of the other derivatives of opium.

Editorial

Albany Medical College

The sixty-ninth commencement of the Albany Medical College takes place at Odd Fellows Hall on May second. While it adds one more year to the age of the college and one more class to her graduates sent out to be tested as to their fitness and the efficiency of their alma mater, it records an important change in the college curriculum. From this time a four year graded course will be essential for graduation. This will permit more time to the senior students than was heretofore possible for bedside instruction, clinical records of cases and the study of the specialties. The inspection of the Albany Hospital will prove to the visiting alumni how well equipped their alma mater is to meet this ever increasing demand for clinical instruction.

As the citizens of Albany have so nobly responded to the medical needs of Albany by the erection of this hospital at a cost of about $250,000 and as a citizen has most generously given to medicine a splendidly equipped laboratory, an opportunity is offered the alumni to express their gratitude and to complete the needs of their alma mater by the erection of a new college building. No better site could be selected; no gift would better indicate the appreciation of our alumni than a medical college building located with a modern hospital for clinical study on one side and a complete laboratory for the study of morbid processes in the living and dead on the other. It is to be hoped that this commencement will see the initiation of a movement which will lead to such a fruitful result.

The Psychoses of the Menopause

By invitation of the County Medical Society of Philadelphia Dr. John B. Chapin presented a contribution with this title, deprecating the use of this phrase if it is to be assumed that the mental disorders which appear at this time of life manifest special characteristics. This terminology results from an attempt to classify insanities as distinct entities due to causes alone, and to open the door to an endless nomenclature and confusion as to the nature of insanity itself. The psychoses of the climacteric comprise hypochondria, simple melancholia, melancholia with depressing delusions, melancholia with agitation or with stupor, acute delirium, and chronic degenerations resembling paranoia. There is a general agreement that melancholia is the most frequent form of mental disease at the menopause, and that acute mania rarely occurs. That the menopause is not an important factor in the production of insanity is shown by the fact that between the ages of forty-five and fifty-five, covering the usual period of the menopause, the admisssions of men and women to institutions for insane are equal. If the menopause were alone a serious and important factor in the production of insanity it would be shown in this connection.

It has been noted, however, at the Pennsylvania Hospital, during the last few years, that a number of women have been received who had been operated upon for removal of the sexual organs, the majority of whom subsequently had melancholia, with many of the symptoms attending the menopause, which had been anticipated by surgical interference, indicating that whether the grand climacteric is brought on in the course of nature, or by the methods of science, the mental results are quite similar, when any have appeared. In these cases, as well as in those occurring independently of surgery, a neurotic or insane tendency has been established.

Dr. Chapin admits that the term "psychoses of the menopause" has some conveniences, but beyond certain narrow limits there is no sufficient clinical experience to warrant the recognition of a distinct class of insanities as due to a normal ending of an animal function that is universal. It is the province of physicians to remove the unfounded perturbations that worry and distress so many persons as they approach this period of their lives, and to hesitate about the performance of all those experimental operations that may precipitate it.

Scientific Review

Traumatic Aneurism of the Brachial Artery with Division of the Median Nerve.—KARL SINNREICH reports a case of traumatic aneurism of the right upper arm in the *Wiener klinische Wochenschrift* of *February 22, 1900*, and makes a rather extended study of the cases of brachial aneurism heretofore reported.

The patient, a man of fifty-one years, received a stab wound in the right upper arm. Blood spurted from the wound, the patient lost consciousness, the hæmorrhage ceased, and a bandage was applied. Some days later when admitted to the hospital an irregular, nodular tumor, somewhat larger than a fist, was found to occupy the lower three-quarters of the flexor surface of the right upper arm. The tumor was elastic, movable from side to side, and manifested a pulsation and a thrill synchronous with the heart beat. The pulsation and thrill disappeared with compression of the axillary artery. There was also evidence of paralysis of the median nerve, both sensory and motor. About two weeks after the occurrence of the injury, total extirpation of the aneurism was practiced. The brachial artery was ligated just below the region of the arteria collateralis radialis. The median nerve was exposed, and the swollen, severed ends were freshened and united by suture. The wound was closed with the exception of a very small drain in the lower angle. The wall of the aneurism varied from two to four millimetres in thickness. In removing the sac it was necessary to excise a portion of the brachial vein. The wound healed rapidly and sensation and motion both rapidly returned in the region of distribution of the median nerve, so that ultimately the patient had almost perfect use of the arm and hand.

The writer has collected 34 cases from the literature of aneurism of the brachial artery. Twenty-five were caused by trauma, six were of unknown origin, and three originated spontaneously. Of the traumatic aneurisms nine originated through venous blood letting. In the treatment of brachial aneurism both the bloody, as well as the bloodless methods have been practiced. Six of the thirty-four cases reported were cured by compression. In one of them the compression lasted only three hours, and in another six hours. In eight other cases, however, the compression method produced no result, and in one case it caused a rupture. Central ligation was practiced in fifteen cases. In eleven of these cases healing resulted. The operation of Antyllus was practiced four times with success. Extirpation according to the method of Philagrius-Purmann was practiced nine times with success. The value of the compression method is that it hastens the establishment of a collateral circulation. In general, however, extirpation seems to be the preferable method. The special dangers of the bloody operations are wound infection and hæmorrhage, but modern technique has removed these dangers. The objection to the methods in which the sac is not extirpated are two-fold: (1st) the length of time required for healing; (2nd) the pressure of the sac upon the nerves.

Injury of the brachial vein is of comparatively little importance because of the superficial collateral circulation. It is desirable if possible to retain the collateral branches of the brachial artery, though ligation above these branches is usually not followed by gangrene. The writer advises a trial of the compression method in every instance in order that if nothing more be accomplished a collateral circulation will be developed. The writer considers extirpation of the aneurism to be absolutely indicated

(1) when there is extensive gangrene of the skin over the aneurism;

(2) in traumatic aneurism when there is also an injury of the median nerve, and

(3) when there is compression of the important branches of the nerve resulting in nervous or atrophic disturbances.

Complete extirpation of the aneurism is contra-indicated

(1) in very recent traumatic aneurisms; that is, in hæmatoma arteriale, since in these cases there is no aneurismal sac;

(2) when there is a severe infection of the wound which leads to the formation of the aneurism;

(3) when there is subcutaneous rupture of the sac.

In the last three classes of cases ligation with free incision after the method of Antyllus is the operation to be desired.

A. W. E.

State Medicine

Edited by Harry Seymour Pearse, M. D.

Medical Legislation of 1900 of the State of New York.—During the legislative session of 1900, there were introduced in the Senate eighty-one medical bills and seventeen amended numbers, making ninety-eight Senate bills in all; in the Assembly there were introduced 124 bills and 46 amended numbers, making 170 bills, making a total number for both houses of 268 bills. The Senate passed twenty-six and the Assembly thirty-seven bills.

During the session there have been a number of bills of great importance to the medical profession; for example, Senate bill No. 1025, known as the Ford Bill, which gave the New York State Medical Association a charter and permitted that medical body to prosecute and enforce the general medical laws of the State and collect fines for so doing. This bill was one of the utmost importance to the New York State Medical Society and was fought vigorously by that body and a compromise was reached in which it was agreed to strike out the clause relating to the medical laws and thereby leaving the statute as it is. In this form the bill passed.

There were bills relating to the practice of midwifery, chiropody, municipal health matters, standards of practice, changes in the medical laws, transfers of hospital property and indeed bills relating to almost every phase of medical and public health matters.

The bill which has probably aroused the most wide-spread interest was Senate bill No. 1141, introduced by Senator G.

A. Davis of Buffalo, providing for the establishment of a State hospital in the Adirondacks for the treatment of incipient tuberculosis. This bill has become so familiar to the profession that it is unnecessary to go into the details at length. The bill originally called for an appropriation of $200,000 to build and furnish an institution to accommodate 200 patients. The bill was reported out of the Finance committee of the Senate with some amendments, among others the appropriation being cut down to $150,000. The bill then went to the Assembly where it was referred to the Ways and Means Committee. Late in the session, the bill not having been reported by this committee, it went into the Committee on Rules where it seemed likely to slumber and sleep. Much effort was expended and at last the committee reported the bill out, cutting the appropriation down to $50,000, but making no other amendments. The bill was again passed by the Senate and sent to the Governor who soon signed it and has already appointed the board of trustees.

Thus, after three years of hard struggle, the medical profession has succeeded in putting the State of New York in the front rank of advancing medical knowledge. With Massachusetts she now joins hands and marches forward in the way of truth and enlightenment. The one lonely outcast, the consumptive, who for years has occupied the melancholy position of being the only human creature, who, sick and discouraged, being turned out or refused admission in the hospitals of the State or municipality, had absolutely no place to go; and year after year 14,000 of these poor creatures passed into the great unknown and each year others took their places in the advancing army of disease. Although advanced medical science had proved that in the incipient stage sixty-five per cent of the cases could be cured and damage from infection lessened, it remained for the Legislature of 1900 to take the step which shall carry to the heart of the poor sufferer a throb of hope. The Chief Executive has done nothing in his Gubernatorial career which reflects greater credit upon his good judgment or will carry with it greater personal satisfaction.

ARTHUR G. ROOT.

Important Bills in the New York Legislature.*

POSITION OF MEDICAL BILLS AT CLOSE OF SESSION OF THE NEW YORK STATE LEGISLATURE.†

Assembly Bill No. 150. Left in committee.
Assembly Bill No. 429. Senate bill substituted.
Assembly Bill No. 435. Left in committee.
Assembly Bill No. 613. Third reading March 1st.
Assembly Bill No. 818 (1128). Hearing before Governor April 4th.
Assembly Bill No. 846. Third reading March 14th.
Assembly Bill No. 847. Third reading March 21st.
Assembly Bill No. 589. Sent to the city clerk April 6th.
Assembly Bill No. 629. Left in committee.
Assembly Bills Nos. 636 and 637. Left in committee.
Assembly Bill No. 904 (1614). Hearing before Governor April 5th.
Assembly Bill No. 1010 (163, 853). Sent to Senate February 21st.
Assembly Bill No. 721 (1945). Hearing before Governor April 3rd.
Assembly Bill No. 724. Left in committee.
Assembly Bill No. 1119 (423). Passed Assembly, February 22nd, and sent to Senate.
Assembly Bill No. 1058. Hearing before Governor April 9th.
Assembly Bill No. 1153. Passed Assembly March 22nd; sent to Senate.
Assembly Bill No. 1229. Third reading March 7th.
Assembly Bill No. 1262. Sent to Senate March 21st.
Assembly Bill No. 1338. Left in committee.
Assembly Bill No. 1509. Second reading March 22nd.
Assembly Bill No. 1562. Hearing before Governor April 9th.
Assembly Bill No. 1581. Left in committee.
Assembly Bills Nos. 1439 and 1496. Left in committee.
Assembly Bill No. 1705. Hearing before Governor April 6th.

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* By courtesy of the Committee on Legislation of the Medical Society of the State of New York.

† For titles see ALBANY MEDICAL ANNALS of February, March and April, 1900.

Assembly Bill No. 1840 (993). Third reading March 13th.
Assembly Bill No. 1914. Left in committee.
Assembly Bill No. 2423. Left in committee.
Senate Bill No. 434. Left in committee.
Senate Bill No. 509 (1233, 1335). Amended and passed March 21st.
Senate Bill No. 511 (1064, 1336). Amended and passed March 21st.
Senate Bill No. 489. Left in committee.
Senate Bill No. 559. Allds Bill reported.
Senate Bill No. 681. Left in committee.
Senate Bill No. 740. Left in committee.
Senate Bill No. 779. Recalled from Governor March 27th.
Senate Bill No. 818. Left in committee.
Senate Bill No. 1025. Recommitted March 26th.
Senate Bill No. 1445 (2158, 1562). Hearing before Governor April 9th.
Senate Bill No. 1407 (904, 1614). Hearing before Governor April 5th.

In Memoriam

JAMES E. BRENNAN, M. D.

Dr. James E. Brennan (A. M. C., 1889), died suddenly at Mechanicville, N. Y., March 23, 1900. Dr. Brennan was well known to the younger graduates of the Albany Medical College as one of the most successful students. He was regarded as the leading member in the class of 1889, and received the Nellis prize for the student passing the best senior examination, his graduating thesis was accorded first mention, and he secured on competitive examination, the first appointment to the staff of the Albany Hospital. This success represented most diligent application to his studies and hard work, which resulted in a physical break-down during his interne service in the Hospital. He was left with a shattered constitution, which lasted throughout the succeeding ten years. There were periods of temporary improvement of short duration, which permitted attempts at practice, his last settlement at Mechanicville having been made only a few days before his death. He was ambitious and energetic, thoroughly honorable in all his relations both with his patients and professional colleagues, a pleasant companion, and the unfortunate result of his ambition leaves among his many friends in Albany a feeling of sincere regret that a career which promised much should have terminated so soon.

FRANCIS M. HAMLIN, M. D.

Dr. Francis M. Hamlin (A. M. C., 1868), died on the 11th of March, 1900, after a prolonged illness.

Medical News

Edited by H. Judson Lipes, M. D.

THE MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—Meeting held April 18th, 1900, in Alumni Hall.

The following members were present: Drs. Archambault, Babcock, Blair, Blumer, W. H. George, W. S. Hale, Hennessy, Hun, Lipes, Macdonald, MacFarlane, McCulloch, C. H. Moore, Mosher, Root, Theisen, Wiltse.

The meeting was called to order at 9 P. M., Dr. Van Allen in the chair.

1. Reading the minutes of the last meeting. It was moved by Dr. Mosher that as the minutes had already been printed they should be adopted as printed. Motion seconded and carried.
2. No minutes of special meetings.
3. No reports of committees.
4. Application for membership. The name of Dr. A. W. Elting was proposed by Dr. MacFarlane.
5. No motions or resolutions.
6. No miscellaneous business.
7. Reading of papers.

Dr. HENNESSY read a paper on "Some Points in the Making of a Plaster Jacket."

Dr. VAN ALLEN declared the paper open to discussion.

Dr. BLUMER asked Dr. Hennessy if he had had any experience in cases of Pott's disease, with paraplegia, with the treatment proposed by Dr. J. K. Mitchell, the father of Dr. S. Weir Mitchell? The treatment consisted in the intermittent suspension of the patient by an apparatus similar to that used in the cases of locomotor ataxia.

Dr. HUN referred to a case which he had seen treated in a similar manner to the Mitchell method, by means of a chair which was devised by Dr.

Case. The results were not very good. He thought that the prognosis in children was usually good with the simple plaster jacket treatment. The case to which Dr. Hennessy referred in his paper was older than most cases and had been neglected for some time.

Dr. Blair mentioned a case where suspension treatment had been used, and later the plaster jacket, the case having recovered. The bone was treated with a weak solution of nitric acid.

In closing the discussion Dr. Hennessy stated, in reply to Dr. Blumer's question, that he had not tried the suspension treatment. In the case mentioned in his paper he had simply been called in to put on a jacket.

Dr. Wiltse then read a paper on "The Management and Treatment of Pertussis."

Dr. Van Allen declared the paper open to discussion.

Dr. Blair stated that he thought whooping-cough was usually looked upon too lightly and that it was a much more serious disease than was generally supposed. He thought there was no specific treatment but that each case must be studied and treated differently. Like hay fever there were three sets of causes involved, i. e., the external disturbing cause, the diseased condition of the mucous membrane, and poor resisting powers. As regards the use of quinine he thought the value lay in the tonic effect. Air and sunlight were very important factors. Regarding the Moncorvo treatment he thought that this observer narrowed the application to too small an area, as in all probability the germ of whooping-cough could be found in the whole upper air tract. Dr. Blair said that he used hot medicinal inhalations, together with tonic treatment, and has had very good results. At present he uses quinine, baths and fresh air, spraying with benzoinol, resinol, etc., through the nose. This method of spraying can be used in even very young children. He uses an olive-pointed nasal tip, and sprayed hourly or half-hourly. Crying did not interfere with the treatment. Another application which he had found to be harmless and bland, to be used at night time, was to place at the foot of the bed a cupful of strong ammonia, and a cupful of salt mixed with sulphuric acid. This produced a strong non-irritating vapor and as there was no direct medication leading to struggling on the part of the child, there was no tax upon its strength.

Dr. MacFarlane then read a paper on "Disturbances in Gastric Motility; their Significance."

Dr. Van Allen declared the paper open to discussion.

One of the patients mentioned in the paper was exhibited by Dr. Macdonald. Where he had been operated upon there was a scar about four inches in length in the median line, which was usually about the length required, Dr. Macdonald said. At the time of operating the anterior wall of the stomach was adherent to the edge of the ribs and the liver. These portions were loosened up, and the stomach was removed from the abdominal cavity, and the posterior wall exposed by tearing through the gastric and colic omentum. In this way the last fixed portion of the duodenum was exposed. The jejunum was anastomosed with the stomach and the free portions of the duodenum and jejunum were then connected with the Murphy button. The object in connecting the duodenum and jejunum was to prevent regurgitation of bile into the stomach. As a rule this posterior anastomosis is preferable to the anterior one. Dr. Macdonald said that he regarded Dr. MacFarlane's paper as a valuable contribution. He thought that many stomach cases did not receive proper attention. The new methods of stomach examination had opened up new fields, especially for the surgeon. All of the operations could not be discussed as there were so many of them, but he wished briefly to refer to the early diagnosis of cancer of the stomach. Many surgeons think that when the tumor is palpable there is no chance of recovery; nevertheless, Dr. Macdonald thought that an operation in these cases often produced much temporary relief. As in intestinal carcinoma colotomy often markedly ameliorated the symptoms for a time, so in carcinoma of the stomach a gastro-jejunostomy is of some benefit. The operation prolongs life and relieves suffering. In some cases after the operation there has been great gain in weight. One patient Dr. Macdonald knew of had gained seventeen pounds. In early cases the more radical operation was advisable. The diagnosis must be made by chemical and microscopical examination. Dr. Macdonald stated there was some doubt in his mind as to which group of cases survived the longest, those with early and extensive operation or those in which simply an anastomosis was performed. In the former cases the risks to the patient were very great. Within the past year he had had six cases in which he had performed anastomosis all of which had temporarily recovered. Two of these operations were done for carcinoma, and two for stenosis from ulcer. He thought the operation for anastomosis was a wise one in cases of simple dilatation especially with the poorer classes who could not regulate their diet properly. In cases of carcinoma, even though there was considerable infiltration, if the blood condition was good an operation was justified as palliative.

Dr. HUN stated that he was much interested in Dr. MacFarlane's paper. He was convinced of the practical importance of the newer methods of stomach examination. The paper, he stated, was beyond his powers of criticism. There was one point upon which the author laid stress, which he thought was more or less theoretical, i. e,, that a diminution of motility distinguished organic disease from a neurosis. We may have nervous cases with paralysis, as well as those with excessive motion.

Dr. MACFARLANE, in closing the discussion, referred to Dr. Hun's remarks by stating that he thought most cases of gastric neurosis were associated with increased motility. In general exhaustion you might have some loss of motility, but it was not marked unless organic disease was also present, and what he wished to emphasize was that the chemistry of the secretion of the stomach was relatively of little value compared to the motility. He thought that when the determination of the loss of motility was made by the general practitioner, he should be very suspicious of grave changes. If the general practitioner felt he could not give the case proper attention he should early turn it over to the specialist or the surgeon.

A motion to adjourn was then made, seconded and carried.

GEORGE BLUMER,
Secretary.

T. F. C. VAN ALLEN,
President.

THE UNION MEDICAL SOCIETY.— At a recent meeting of the Union Medical Society the following officers were elected: President, Dr. Z. Rousseau; Vice-Presidents, Drs. D. W. Houston, Rensselaer county, M. M. Brown, Berkshire county, Tenny, Washington county, W. B. Sanford, Saratoga county, W. B. Sabin, Albany county; Secretary, H. O. Fairweather; Treasurer, H. S. Goodall; Censors, Drs. William Finder, Rensselaer county, W. S. Phillips, Bennington county, J. H. Hobbie, North Adams, Mass., F. A. Palmer, Saratoga county, J. H. Mitchell, Albany county, J. H. Maguire, Salem, Mass.

ANNUAL APPEAL FOR THE NEW HOSPITAL.— The Board of Governors of the Albany Hospital have addressed the following appeal to the citizens of Albany:

Since the appeal of last year the new hospital has been completed; its operating room has been equipped with the best appliances and the public wards and private rooms have been well furnished with all that is needed. The hospital now stands in its well laid out grounds upon the high lands south of the city, a monument of the generosity and humanity of Albany. The pure air which surrounds it and the bright sunshine which streams into its rooms are nature's restorers for the sick and disabled, and aid the devoted care of its physicians, surgeons and nurses.

This is not the place to mention in detail the very liberal gifts, large and small, which have enabled the Governors to erect this admirable structure. But they must express, in general words, their thanks to the donors, near and distant.

It was mentioned in the last appeal that, in acknowledgment of liberal gifts and by request of the donors, three of the pavilions had been named in loving memory of deceased friends. In like manner the remaining pavilion is now the Myers pavilion. At the time of the last appeal, and even afterward, when the hospital was opened for patients, the surrounding grounds were rough and irregular, and had no proper approach to the buildings. Through the generosity of one of our citizens, roads and paths have been laid out, trees and shrubs have been planted, the land has been brought into good shape and has been carefully seeded down. The cold weather and a delay in getting material prevented the completion of this work, and a little remains to be done in the coming spring. But even now can be seen how pleasant and attractive the place will be for patients and for visitors. The grading and paving of the New Scotland avenue, with its convenient sidewalk, have made access to the hospital easy and agreeable.

The recent meeting here of the Medical Society afforded an opportunity for physicians and surgeons of other places to visit the new hospital. Many did so, and they strongly expressed their admiration of the arrangements, of the convenience for the care of patients, of the favorable conditions for recovery and of the thorough neatness and care seen throughout the buildings. There is a growing appreciation of the usefulness of a trained nurse in all cases of serious illness, even where the patient is in his own house. One of the most useful things accomplished by the hospital will be that, through the earnest efforts and generosity of the patronesses and managers of the Training School for Nurses, and through the excellent opportunity now afforded for their work, the hospital will, year after year, graduate a class of skillful and experienced nurses.

The Governors are sure that those who have contributed to the erection of this hospital and those also who have not yet felt able to aid, as they desired, will all acknowledge that an institution so well fitted to do good must be bounteously sustained. These buildings must be kept in active use, ready at all times to receive and care for all those who need the aid which is here given. For nearly ten months these buildings have been opened for patients, and the number of these patients shows how greatly the hospital is needed.

Every one who has seen the new buildings will, in some degree, appreciate that the expense of carrying on the work must be very much greater than it was in the old building. These buildings are large and extended so as to receive the sunlight in abundance, and they stand on a site exposed to the winds; they are lighted by electricity, and the elevator is run by that power, they are heated throughout by steam. All this increases the expense for coal. The kitchen and laundry are large and require much labor and fuel. Many nurses and attendants are necessary. And in these and in other ways, which need not be specified, the expenses must be great. The Governors, therefore, confidently ask their fellow-citizens to come generously to the annual support of this institution.

FEBRUARY BULLETIN OF THE STATE BOARD OF HEALTH.—During the month of February there were 10,796 deaths reported an increase of over 700 above the average for the past five years. The most noticeable increase was in the number of deaths from measles and scarlet fever. Influenza has been severe throughout the entire state but particularly in the Maritime District. Typhoid fever was less prevalent than last year particularly in the city of Albany, where only one death occurred from that disease; while in the neighboring cities of Cohoes and Troy there were thirteen deaths. According to the population the greatest number of deaths from typhoid occurred in the Southern Tier District.

In Albany there were 146 deaths as follows: Cerebro-spinal meningitis, 2, typhoid 1, measles 1, croup and diphtheria 4, diarrhœal diseases 2, acute respiratory 28, consumption 17, digestive system 10, urinary system 4, circulatory system 13, nervous system 29, cancer 9, accidents and violence 7, old age 5, unclassified 14.

STATE BOARD OF REGENTS.— Dr. Edward Chapin of Brooklyn, has been appointed by the State Board of Regents a member of the New York State Board of Medical Examiners to fill the vacancy caused by the death of Dr. A. R. Wright of Buffalo.

DEATH OF DR. ST. GEORGE MIVART.— Dr. Mivart died suddenly in London, April 1st. He was born in London in 1827. Although a doctor of medicine, Dr. Mivart did not practice. He was formerly lecturer on zoölogy at St. Mary's Hospital Medical School, and professor of biology at the University of Louvain. He was recently excommunicated by the Roman Catholic Archbishop of Westminster for asserting that to ask a reasonable man to believe such "puerile tales" as those of the Tower of Babel, of Jonah, and of the creation of the world in six actual days, was an insult to his intelligence. He was a fellow of the Royal, of the Linnæan and the Zoölogical societies. His attainments as a man of science have been generally recognized, particularly in his works on and in opposition to the Darwinian theory of the origin of species.

PRIZE FOR AN IDEAL ARMY RATION.—The prize of $100 (or its equivalent in the shape of a gold medal) offered by Dr. Louis L. Seaman of New York, through the Military Service Institution, for the best essay on "The Ideal Ration for an Army in the Tropics," has been unanimously awarded to Capt. E. L. Munson, assistant surgeon, U. S. A. The board of award consisted of three army officers, Col. John F. Weston, acting commissary-general, Lieut.-Col. Charles Swart, deputy surgeon-general, and Lieut.-Col. Wm. H. Dougherty, Seventh United States Infantry. Dr. Munson holds that the present army ration contains too much nitrogenous food and hydrocarbons and not enough carbohydrates, and the ration in general is too large.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.— The annual meeting of this association will be held at Richmond, Va., May 22-25, under the presidency of Dr. Joseph D. Rogers, Logansport, Ind. The Jefferson — an extremely desirable convention hotel — has been secured and the committee of arrangements is making every effort to provide for the comfort and entertainment of the members. The annual address will be delivered by Dr. J. Allison Hodges of Richmond. Other addresses will be made by Governor J. Hodge Tyler, Major R. M. Taylor and Dr. John N. Upshur of Richmond. Among the papers promised are those by Dr. J. M. Mosher, Albany, N. Y., on "The Insane in General Hospitals;" Dr. W. P. Spratling, Sonyea, N. Y., "The Colonization of Certain Classes of the Cronic Insane with Suggestions and Illustrations from the Craig Colony of Epileptics;" Dr. Wm. Mabon, Ogdensburg, N. Y., "Surgical Operations in Hospitals for the Insane;" Dr. P. M. Wise, New York, "The State of New York vs. The Pathology of Insanity;" Dr. R. Dewey, Wauwatosa, Wis., "What Condition if any would Warrant the State in taking Life because of Incurable Mental Disease or Defect;" and many others.

WATER FILTRATION.— The *Scientific American* in commenting upon the results of the recent instalment of the filtration beds in connection with the water supply of Albany, says: "The disease directly traceable to the sewer polluted water of the Hudson was *typhoid* fever, the death rate from which the city of Albany for nine years ending 1898 had averaged 85 per annum. During the first four months in which the filters have been in operation, 7 deaths from this cause have been reported. During the corresponding interval of nine years ending 1898, the average number of deaths was 24; so that the filtration of the water has reduced the deaths from this cause in the ratio of 24 to 7. The filtration plant at Lawrence has reduced the typhoid fever death rate in that city from 11.31 to 2.54. The filtration plant in the city of Hamburg, Germany, was put in operation in 1895; during the five years previous to that date the average typhoid death rate was 4.72, since that date it has fallen to .72. Since the opening of the filtration plant at Mount Vernon, N. Y., in 1894, the number of deaths from typhoid has decreased over 76 per cent. The average cost of operating the filters at Mount Vernon, including the laboratory work, is $1.67 per 1,000,000 gallons."

THE FIRST INTERNATIONAL CONGRESS OF MEDICAL DEONTOLOGY OR MEDICAL ETHICS.—By virtue of the Ministerial Decree of June 11, 1898, an International Congress, dealing exclusively with economical and ethical questions, is convoked. It will hold its first sitting at the Palace of Congresses and of Social Economy, situated within the Exhibition Grounds, on Monday, July 23, 1900. After the inaugural ceremony the Congress will meet at the Faculty of Medicine, 12 Rue de l'Ecole de Médecine, Boulevard St. Germain, and continue its sittings till July 28th. Dr. L. Leveboullet, Member of the Academy of Medicine, is president. Dr. G. H. Simmons, of Chicago, is the president of the committee representing the United States. The Congress will be divided into four sections for the discussion of the following general subjects: 1st. The Relations of Medical Men and Collectivities; 2d. The Relations of Medical Men and Individuals; 3d. The Relations of Medical Men with Fellow Medical Men (Medical Deontology); 4th. Professional Organization of Insurance, Mutual Assistance and Defence. All Medical Associations or societies who deal with economical and ethical questions are earnestly invited to appoint delegates to represent them at the Congress.

RECENT CHANGES IN THE FACULTIES OF MEDICAL COLLEGES.—*University of Pennsylvania:* Dr. J. William White, Clinical Professor of Surgery is to be made Professor of Surgery in place of Dr. John Ashhurst, Jr., who lately resigned.

Jefferson Medical College: Two additions have been made to the major faculty. Dr. F. X. Dercum, formerly Clinical Professor of Diseases of the Nervous System; has been elected Professor of Neurology, and Dr. Chalmers Da Costa, Clinical Professor of Surgery has been elected Professor of the Principles of Surgery and of Clinical Surgery.

Rush Medical College: The office of vice-president is established, and Dr. Henry M. Lyman, Dean of the Faculty, in view of his long connection with the college and the valuable services rendered is appointed to this office. Dr. Frank Billings, Dean of the Senior class, is promoted to the deanship of the faculty. Dr. John M. Dodson and Dr. Frederic S. Collidge are reappointed Deans in charge of the Freshman class. The resignation of Dr. Norman Bridge as Professor of Medicine is accepted and he is appointed Emeritus Professor of Medicine. Dr. John M. Dodson has been appointed to the Professorship of Pediatrics; Dr. D. R. Brower to the Professorship of Mental and Nervous Diseases.

Columbia University: Dr. R. F. Weir and Dr. W. T. Bull, Professors of Surgery and visiting surgeons to the New York Hospital, have been appointed visiting surgeons to the Roosevelt Hospital.

FOREIGN UNIVERSITY INTELLIGENCE.—*Cracow:* Dr. S. Ciechanoneski has been appointed Extraordinary Professor of Pathological Anatomy. *Bologna:* Dr. Cervesats of Padua has been appointed .Professor of children's diseases. *Genoa:* Dr. Rudolf Weber has been appointed to the Chair of Mental Diseases in succession to Dr. J. Martini, resigned. *Jassy:* Dr. C. Juvara has been appointed Professor of Surgical Anatomy. *Leipzig:* Dr. Felix Marchand of Marburg, has been appointed to the Chair of Pathological Anatomy in succession to the late Dr. Birch-Hirschfeld. *Marburg:* Dr. Hugo Ribbett of Zürich has been appointed to the Chair of Pathological Anatomy in succession to Professor Marchand who goes to Leipzig. He is the author of a manual on pathological histology and a work on the historical development of the theory of disease. *St. Petersburg:* Dr. Skorichenko has been promoted to the ordinary Professorship of the History of Medicine and Dr. Kholodouski to the ordinary Professorship of Comparative Anatomy. Dr. Magawly, Director of the University Ophthalmic Clinic, who was a pupil of Albrecht von Græfe and assisted in introducing modern ophthalmic surgery in Russia, is about to retire. *Turin:* Dr. A. Carle has been promoted to the ordinary Professorship of Surgical Pathology.

STATE HOSPITAL FOR CONSUMPTIVES.—After Governor Roosevelt had signed the bill providing for the establishment and maintenance of a State Hospital for Consumptives, it became his duty to appoint a board of five trustees, two of whom shall be physicians. The full board is as follows: Howard Townsend, of the borough of Manhattan, for five years; John H. Pryor, M. D., of Buffalo, four years; Willis G. Macdonald, M. D., of Albany, three years; Walter Jennings, of the borough of Manhattan, two years, and Frank E. Kendall, of Saranac Lake, one year.

PERSONAL.—Dr. HOWARD E. LOMAX (A. M. C., 1892), has removed from New Baltimore to 114 Jay street, Albany, taking the practice of Dr. Rensselaer J. Smith, who leaves for California.

Book Reviews

Bacteriology in Medicine and Surgery. A Practical Manual for Physicians, Health Officers and Students. By WM. HALLOCK PARK, M.D., Assisted by A. R. GUERARD, M.D. Published by Lea Bros. and Co., New York and Philadelphia, 1899.

The object of this work, which comprises nearly 700 pages of reading matter, is, according to the author, to bring together those facts in bacteriology which will constitute a sufficient text book for the student, and which are of direct practical value to the physician and health officer. A sufficient amount of detail as to the technical procedures of bacteriology is given to enable the physician to understand those methods which can be carried out by an ordinary practitioner.

After an introduction which deals with the historical development of eriology, the author proceeds in the first seventeen chapters to deal with the biology of bacteria, paying special attention to their chemistry and to the effects of the different agents which can be used for their destruction. He also takes up in this portion of the book the questions of immunity and infection, the question of the use of animals for diagnostic and test purposes, and the questions of the procuring of material from patients and of the examination of water and air. The remainder of the book is devoted to the discussion of specific bacteria. As an appendix the author has inserted brief descriptions of some of the pathogenic micro-organisms which are not usually included under the heading of bacteria. Finally after this appendix there is a short index of infectious diseases with their bacterial causative agents.

The book in its entirety is quite satisfactory, and gives a fair and impartial digest of the ground it covers, besides bringing in both published and unpublished work of the author and his laboratory associates.

The chief fault which we have to find with the volume is that it gives evidence either of hasty preparation or of very careless proof reading. In numerous places proper names of well-known investigators are improperly spelt. Thus, Birch-Hirschfeld is spoken of as "Birsch-Hirschfeld;" Hansen, the discoverer of the leprosy bacilli, is spoken of as "Hausen;" Barbacci is spoken of as "Barhacci" and Charrin is spoken of as "Chassin." There are a number of other similar mistakes chiefly in connection with the names of foreign writers.

Besides these mistakes in names the text at times shows carelessness in its construction. For example the sentence: "This bacillus is pathogenic for rats, mice, guinea-pigs, monkeys, rabbits, flies, and other insects, which usually die within two or three days after inoculation," is open to a construction which the author certainly did not mean it to have. There are other instances of this kind in the book.

There are a few statements made by the author which we think are open to criticism. For example, in the section under tuberculosis the author speaks as though authentic instances of tuberculosis in the new born child had not been proved, while as a matter of fact there are a number of undoubted cases in the literature. And again, the same remark may be made in connection with placental tuberculosis. In the section on typhoid fever the author makes the statement that in this disease necrosis of the tissues of the internal organs is a comparatively rare occurrence, and that caseation of the mesenteric glands, which is commonly observed, is due probably to mixed infection. We think that few observers who have studied their typhoid autopsies, both pathologically and bacteriologically, will agree with either of these statements. In this same chapter the following sentence occurs in connection with suppuration following typhoid fever. "Such cases, however, are of comparatively rare occurrence, because only exceptionally do the bacilli sufficiently mass together in such numbers as to become pus producers." This would give the impression that the production of pus was due to the massing together of the bacilli, which is hardly, we think, what the author means to suggest. Other examples of more or less involved sentences could be quoted, although the number present in the book is not large. Another point in which the author makes a mis-statement is in regard to the bacillus aërogenes capsulatus. He states of this organism that it does not produce spores, while Dunham showed that the organism does produce spores on blood serum, and this statement was confirmed by Welch. In speaking of the staphylococcus pyogenes aureus we wonder that the author did not mention its growth on potato, as the most characteristic pigment formation occurs on this medium. In connection with the proteus vulgaris the growth on potato is also omitted, although on this medium the organism gives rise to its characteristic trimethylamine smell. The author omits mentioning the para-colon group of bacilli, and under the heading of Friedlander's bacillus, does not mention similar organisms described by Pfeiffer and Wright.

The index of infectious diseases at the end of the volume would be more useful if more comprehensive. The statement regarding appendicitis would indicate that it is generally due to the bacillus coli communis, a statement with which but few careful bacteriologists will agree.

The book in places shows evidences of careless book-making. For example, one of the chapters has a superfluous "the" in the heading, and the descriptions beneath the plate opposite page 264 do not describe the appearances seen in the two lower fields of the plate. With the correction of these few minor errors and more careful proof-reading, we think that the book would usefully fulfill the purpose for which it is intended.

We regret to observe that some of the illustrations of apparatus in the early part of the book are labeled with the makers' names. This savors too much of commercialism, which is unfortunately already a stench in the nostrils of the medical profession.

G. B.

The International Medical Annual and Practitioners' Index: A Work of Reference for Medical Practitioners. By Forty-Two Contributors. Eighteenth Volume. New York and Chicago: E. B. Treat & Co. Pp. 748. Price, $3.

The eighteenth volume of this well known annual comes each year as a welcome addition to the every day consulting library of the physician. Its value consists in the practical and useful character of its references. The latest scientific theories are considered as well as the most approved lines of treatment for special conditions. The latest theories in regard to the ætiology of cancer and malaria are fully discussed, while that bane of medicine, the treatment of rheumatism, receives for its consideration eight pages. The inflammations of the accessory sinuses of the nose are well illustrated and fully covered. Each year one subject receives especial prominence and in this volume the consideration of the diseases of the stomach, their medical and surgical treatment, has this place of honor. The unusual disease mycetoma, a condition similar to actinomycosis and usually affecting the feet, is made very easily recognizable by three colored plates.

The volume has in addition a review of the latest therapeutics, a chapter upon Radiography, the year's work in sanitary science, and an abstract of the legal decisions affecting medical practitioners and the public health.

Current Medical Literature

SURGERY

Edited by A. Vander Veer, M. D.

The Radical Operation for Varicocele.—ALBERT NARATH (*Wiener klinische Wochenscrift, 25 January, 1900*) has performed the operation in several cases in the following manner: An incision through the skin, about ten centimetres in length, is made in the direction of the inguinal canal, about a finger breadth above Poupart's ligament. This incision, which is not carried as far down as the tuberculum pubis, is carried through the skin and superficial fascia. The external oblique muscle is then split in the same direction and the inguinal canal laid open in its whole extent, just as in Bassini's operation for inguinal hernia. The spermatic cord with the cremaster and the tunica vaginalis is then lifted out of the inguinal canal, this being very easily accomplished. With a short longitudinal cut, or finger dissection, to separate the cremaster and the tunic, the whole outline of the spermatic cord is brought into clear view. The distended veins are exposed even when only slightly filled In the inguinal canal access is given either to the main trunk of the internal spermatic vein or its principal branches. The veins are dissected out as far as possible, tied with double ligatures and separated between the ligatures. The proximal stump of the incised vessels immediately retracts and disappears, as they lie higher than the internal ring. The distal veins are then traced as far as the external ring, and likewise separated between two ligatures. In this way a section of several centimetres in length is removed from the venous trunks and their branches, or, in high origin of the latter, from them alone. The veins are very easily separated from their relations with the spermatic cord. Following the operation care must be taken to prevent a peritoneal hernia. If this be present it must be isolated, twisted, ligated and amputated. Finally the external spermatic veins may be investigated, and if dilated, should be also resected. As the last act of the operation the inguinal canal should be closed after the manner practiced by Bassini.

The advantages of this operation may be summarized as follows:

(1) The initial incision is made in a region which may be much more easily cleansed and sterilized than the scrotum; (2) the circulation in the internal spermatic vein is completely interrupted and the high pressure relieved; (3) the chance of wounding the internal spermatic artery is much more reduced than in any other operation; (4) if the external spermatic veins are in perceptible degree distended they may also be resected, (5) an inguinal hernia, when it exists, may be treated at the same time. Small peritoneal herniæ may also be found for the first time by the opening of the inguinal canal; their recovery is easy; (6) lipomata presenting may also be removed at once; (7) the inguinal canal may be firmly closed; (8) the spermatic cord may be drawn forward and embedded in a narrow canal; (9) the testicles are made to lie higher, and the absolute length of the extra-abdominal scrotum is reduced, so that the

column of the pendent blood vessels is reduced; (10) the influence of the abdominal pressure upon the circulation in the testicle is reduced or entirely relieved; (11) the collateral circulation in the scrotum remains inasmuch as the scrotum itself has not been operated upon; (12) the operation is very neat and aseptic, the venous plexus remains intact, and the loss of blood is very slight.

Surgical Treatment of Carcinoma of the Stomach.—By Dr H. LINDNER *Berl. klin. Woch., January 29, 1900.* Billroth was the first to demonstrate that large pieces of a carcinomatous stomach could be removed with success. There appeared, however, to be comparatively few cases in which such an operation was practicable, and its place was largely taken by gastro-enterostomy which was first recommended by Wolfler. During the past two years the surgery of the stomach has come into special notice, and particularly the surgery of carcinoma of the stomach. At present there appear to be three important questions with regard to this matter: (1st.) Is it possible to remove a carcinoma of the stomach in a more radical fashion than formerly? (2d) Is it better in cases in which a radical operation is impossible to perform a total resection of the stomach, or to perform a gastro-enterostomy? (3d.) In cases in which only a palliative operation is possible is gastro-enterostomy to be preferred to jejunostomy?

In regard to the first question the necessity of removing lymphatic glands and vessels connected with the stomach must be borne in mind There are four groups of glands which are of special importance in carcinoma of the stomach; (1st.) the group in the ligamentum gastrocolicum; (2d.) the group in the ligamentum gastro-hepaticum; (3d.) the group in the bend of the duodenum; (4th.) the group about the choledochus and the portal vein.

The results of operation would appear to show that recurrences are more apt to occur in the stomach or duodenum than in the glands. In twenty-eight cases of resection of a portion of the stomach with autopsy there was local recurrence in fifteen, distinct recurrence in twelve, and gland recurrence in one. The writer especially emphasizes the necessity of the appreciation on the part of the internists of the value of an early diagnosis if operation is to be successfully performed.

In regard to the question as to whether a total resection is to be preferred to gastro-enterostomy in cases in which it is impossible to remove all of the carcinomatous growth, the writer is inclined to consider gastro-enterostomy the operation to be preferred, and in general it appears to give more relief from the distressing symptoms. The writer usually prefers ante-colic gastro-enterostomy, associated with entero-anastomosis between the duodenum and jejunum, thus preventing the bile and pancreatic fluid from gaining access to the stomach. Maydl has been the chief advocate of the jejunostomy and Maydl's statistics are very satisfactory, but both theoretically and practically the writer feels that this operation is not so satisfactory as is gastro-enterostomy, for it does not provide for the relief of an obstructed pylorus if such should exist.

Operative Treatment of a Fibroma of the Mesentery with Extensive Resection of the Intestine.—By Dr. E. LEXER. *Berl. klin. Woch., January 1, 1900* The mortality following operations for the removal of large tumors of the mesentery is necessarily high. Shock and peritonitis seem to be the chief causes of death. Peritonitis usually comes from gangrene of the anastomosed ends of the intestine, due to an insufficient blood supply.

The writer reports a case of a man of forty-one years, in whose abdomen there existed a large movable tumor situated below the umbilicus, and occupying the mid region of the abdomen. It did not cause the patient a great deal of discomfort aside from a colicky pain and a dragging sensation. At operation the tumor was found to be situated between the two layers of the mesentery, and along the convexity of the tumor ran a coil of ileum between which and the tumor there were two or three centimetres of mesentery. At the base of attachment of the tumor there were situated some large branches of the mesenteric artery and vein, which it was necessary to ligate. This necessitated the removal of all the intestine supplied by these branches, and accordingly two metres of the ileum were removed along with the tumor. There was no involvement of the lymphatic glands. The writer performed a lateral anastomosis of the resected ends of the intestine and the abdomen was closed The patient made an uninterrupted recovery. Microscopic examination of the tumor, which weighed five pounds, showed it to be a fibroma with small areas of myxomatous tissue. The writer refers to several cases of successful resections of large portions of the intestine, and says that the longest piece ever successfully removed was three metres and thirty centimetres, done by Ruggi in 1894. Montprofit has recently successfully removed a piece of intestine three metres and ten centimetres in length.

MEDICINE

Edited by Samuel B. Ward, M. D.

Heredity in Chronic Nephritis.—By Dr. P. K. PEL. (*Zeit. für. klin. Med., Bd 38, Hft. 1, 2, 3.*) In studying the hereditary character of a disease, one should not only consider the frequency with which it occurs but should also pay especial attention to the conditions under which the hereditary tendency seems to manifest itself. The writer calls attention to the generally accepted hereditary tendencies in certain diseases, as hæmophilia, optic atrophy, and the so called diseases of metabolism, as gout, diabetes and obesity. In tuberculosis, nervous diseases, migraine, heart diseases, arteriosclerosis and lithiasis, hereditary tendencies are clearly proved to exist. The writer also states that in from ten to fifteen per cent. of cases of cancer there is an hereditary element.

With regard to chronic nephritis, there does not appear to exist any very strong sentiment that heredity plays a roll of any special importance. The writer has carefully gone over the literature and quotes from most of the more prominent writers on diseases of the kidney. With considerable accord they recognize the possibility of an hereditary tendency, but say that it is not clearly proved. A few writers are more positive in the statement that an hereditary tendency does exist. Dickinson has reported a most remarkable example in which eighteen cases of nephritis occurred in the same family in three generations. Tyson has also reported a series of sixteen cases of nephritis occuring in the same family in two generations. Kidd saw eleven cases in two generations of the same family.

The writer reports a series of eighteen cases occuring in the same family in three generations. These cases were all of chronic nephritis and the diagnosis in all of the cases was positive. All the cases reached rather an advanced age and they all died of uremia. Of the eighteen cases, nine were men and nine were women. It would appear that the sons inherited the tendency to the disease from their father and the daughters from their mother. The writer is inclined to assume in these cases the existence of an inherited predisposition of the kidneys to disease, as a result of which the kidney parenchyma becomes a *locus minoris resistentiæ.*

The recognition of an hereditary tendency in certain families is of much importance, for, as a result of its recognition, many undesirable sources of irritation of the kidney can be avoided.

The Prompt and Radical Cure of Syphilis. Syphilis and Mercury.—In the issue for the *15th of October, 1899*, of the Belgian *Presse Médicale*, is a review, by BOULENGIER, of the third edition of Doctor Larrieu's work bearing the above title. The reviewer pronounces the book a scientific and critical study of the mercurial treatment of syphilis; that its author is neither a mercurialist nor anti-mercurialist, but that he seeks only to determine the mode of action of mercury, what doses of it to use and in what way to administer it. Inunction acts solely, by means of the mercurial vapors absorbed by the respiratory tract; when these vapors are condensed into minute, metallic drops, they may even yet be absorbed through the respiratory mucous membrane and pass into the circulation; but then, as in the case of injections of liquid mercury under the skin or even in the blood, they may exert no dynamogenic nor therapeutic action, but may form little emboli or accumulate as larger or smaller drops in the organs, remain inert, encysted or act only as foreign bodies.

The curative effect of inunction is due solely, then, to the inspired vapor; how does it act? It is when, continuing to be absorbed and ceasing to be correspondingly eliminated, it passes into a liquid condition. This physical phenomenon gives rise to a considerable liberation of heat. This phenomenon, conjoined with the proved stimulation of murcurial vapor on the nervous system, is the whole secret of the incontestable effect of inunction on syphilis.

The author does not commend the gastric or hypodermatic exhibition of mercury or its compounds.

The smallest doses of mercury do not act as specifics nor anti-microbically but as bringing about the *activity* of the correlative exchanges of the organs. This salutary influence is not exerted solely in the syphilitic diathesis, but has given good results in chloro-anemia, in certain cases of Bright's disease, rebellious glycosuria, diabetes, etc. The author proves that other remedies besides mercury, especially iodin, can produce salutary effects. So, without prescribing murcurials, he formulates a treatment which he claims has assured lasting cures in from six to ten months.

1. Locally: (*a*) on papules, psoriasis or condylomata:

Glycerole of starch	30 grams.
White precipitate	3 "

(*b*) On mucous patches in the mouth, gargles of sublimate solution, light penciling with nitric acid, mercury and the usual caustics.

2. General treatment:

(*a*) Early, every morning, three drops of the tincture of iodine, newly prepared with pure or sweetened water;

(*b*) A teaspoonful of the following potion:

Crystallized iodide of sodium	20 grams.
Distilled water	300 "

This treatment should be continued from five to eight months, fifteen to twenty days each month; after the fourth month reducing the number of days, per month, to fifteen.

The author ascribes the rapid action of the glycerole, used topically, to the combination of the iodin with the mercurial salt. It was long ago pointed out that serious accidents occurred, sometimes, when the iodin was used in internal treatment and calomel as a dry collyrium.

PATHOLOGY

Edited by George Blumer, M. D.

The Central Nervous System in Leukæmia.—By Dr. BLOCH and Dr. HERSCHFELD. (*Zeit. für klin. Med., Bd. 39, Hft. 1 and 2.*) The changes in the central nervous system associated with pernicious anæmia have received a great deal of attention. Those associated with leukæmia on the other hand have been studied in comparatively few instances. Changes have been found in the peripheral nerves, in the brain, in the cord, and in the meninges, associated with leukæmia. F. Schulze in 1884 first described degenerative changes in the cord associated with leukæmia. Eisenlohr, May and Muller have each described changes in the peripheral nerves associated with leukæmia. Most of these changes appear to have been due either to capillary hæmorrhage in the nerves or to the infiltration of the nerves with lymphoid cells. Changes in the brain in the nature of leukæmic hæmorrhages have long been recognized. Bramwell and Kretschy have reported marked cases of this character. Lymphomatous growths have been found in the meninges in association with leukæmia. Eichhorst has reported an exceedingly interesting case of this character, in which paralysis of the lower portion of the body was produced by pressure of the lymphomatous tumor situated in the meninges, upon the cord. W. Muller, Nonne and Kast have each reported cases of degenerative changes in the cord and medulla, associated with leukæmia. All of the cases hitherto reported of degenerative changes in the cord appear to have been of a rather acute character; that is, a parenchymatous degeneration.

The writers report a case of spleno-myelogenous leukæmia in a male child of eight months. At autopsy there was found to be in places a well marked leukæmic infiltration of the cord confined almost entirely to the gray matter and not especially associated with blood vessels. There was also considerable sclerosis of certain of the columns of the cord, especially the posterior columns. They believe this to be the first case on record in which a distinct leukæmic infiltration has been demonstrated in the cord in association with leukæmia, and this process appears to be in no way associated with acute parenchymatous degeneration of the cord not infrequently seen in leukæmia, and which appears to be due to the action of some toxine.

The Origin of the Skin Pigment in Addison's Disease.—In the *Centralblatt für allegmeine Pathologie* for the 2d of January, 1900, PFÖRRINGER discusses this subject. He mentions the fact that Nothnagel, Riehl and v. Kahlden had already done work which tended to show that the origin of the pigment was the blood, and that in v. Kahlden's case this author was able to demonstrate pigment in the leucocytes. The author then gives the history of a typical case of Addison's disease which came under his observation. There was caseous tuberculosis of both supra-renal capsules in which tubercle bacilli were demonstrated microscopically, but there was no marked change in the solar plexus. The author studied particularly the skin with reference to the origin of the pigment. He found the usual changes in the stratum papillare. Further than this he was able to find in the capillaries of this portion of the skin definite collections of pigment granules either free or else in the interior of leucocytes. As to the manner in which the pigment is formed, the author was unable to find any definite answer.

Immunization against Hydrophobia with Normal Nerve Substance.—AUJESKY in the *Centralblatt für Bakteriologie* for *January 6, 1900*, reports his observations on this subject. He refers to the experiments of Babes who was able to immunize animals against weak doses of hydrophobia virus by inoculating them previously with an emulsion of normal sheep brain. He also refers to the experiments of Calabrese who reported these experiments but with strong hydrophobia virus and was unable to confirm them. Going on the supposition that the disagreement between the two observers was due to the fact that one of them used weak and the other strong virus, Aujesky reported the experiments of both authors. He was able to show that both were right. A number of experiments made by him showed that dogs could be immunized against a weak hydrophobia virus by being previously inoculated with an emulsion of spinal cord, whilst on the other hand they could not be immunized when a strong hydrophobia virus was used, some of them under these circumstances dying even sooner than the controlled animals.

A Typical Symmetrical Epithelioma of the Supra-Renal Capsules.—CARRIERE and DELEARDE in the *Archives de Médecine Expérimentale* for *January, 1900*, published an account of a very unusual case of primary bilateral epithelioma of the supra-renal capsules.

They were able to find but six cases on record of primary epithelioma of the supra-renal capsules, their own case making the seventh. The clinical history of the case was that of any case of secondary carcinoma of the liver. There were during life no symptoms definitely pointing to involvement of the supra-renal capsules. The *post-mortem* examination showed bilateral nodular tumors occupying the region of the supra-renal capsules and embracing the kidneys. Histologically they were of an epithelial type, and in places the authors thought that they could make out that the new growth originated from the vesicular zone. In summing up their case they make a number of statements concerning epithelioma of the supra-renal capsules which show much interest. The following are the most important of these conclusions:

Epithelioma attacks the right supra-renal capsule more frequently than the left. It can be symmetrcial as shown by this case. The disease is observed preferably between fifty and sixty years of age, and has only been seen so far in men. Generally it is not diagnosed. Almost all observers agree that the symptoms of Addison's disease are absent. The symptoms observed are those due to mechanical compression of the tumor, of cachexia, and those of intoxication. The pressure symptoms are œdema and ascites. The cachexia is that ordinarily accompanying carcinoma while the terminal symptoms of intoxication, such as vomiting, diarrhœa, dyspnœa, somnolence and coma, are possibly due to suppression of the functions of the supra-renal capsules. It is very evident then, as the authors say, that the disease cannot be diagnosed during life, and that surgical intervention is out of the question.

The Role Played by Fleas of Rats and Mice in the Transmission of the Plague.—GALLI-VALERIO in the *Centralblatt für Bakteriologie* for *January 6, 1900*, discusses this subject. He refers to an article by Simond in which this author claims that he has observed in a certain number of plague cases blisters somewhere on the surface of the body which contained the plague bacilli and which he thought were due to the bites of fleas from rats and mice. Simond was furthermore able to find in the intestinal canal of such fleas bacilli of the plague. This paper of Galli-Valerio concerns itself with the discussion of the possibility of human beings being infected in this way. The writer shows that the fleas which inhabit rats and mice are quite different from those which inhabit the human being, and he further notes that he was unable in any instance to get fleas from rats and mice to bite human beings. He, therefore, comes to the conclusion that the work of Simond is far from being conclusive.

Areas of Large Cells in the Follicles of the Spleen in Diphtheria and Other Affections.—TITIANA WASCHKEWITSCH in *Virchow's Archiv* for *January, 1900*, describes the occurrence of peculiar areas of large cells in the follicles of the spleen in infectious diseases, particularly diphtheria. In this latter disease they had already been noticed, particularly by Oertel and Barbacci, but it had also been noticed by Langhans that they might be present in other conditions than diphtheria. The writer examined a large number of spleens, not only in diphtheria, but also in other infectious diseases, and was able to find the cellular areas in a number of them. They were present in individuals of all ages, but occurred with much greater frequency in children and in young individuals. The areas occurred in the form of large, pale cells, generally occupying the centre of the follicles of the spleen, and resembling, some of them epithelioid cells and other endothelioid cells. The conditions in which they were found other than diphtheria were practically all infectious processes. Thus, there were three cases of peritonitis, one of pleuritis, one of pericarditis, two of meningitis, and one of fresh fracture. The condition was also found in one case of congenital lues. The author is inclined to think that the areas are due to the action of toxine. In some instances there were associated with them in the infected spleen numerous eosinophiles. The author does not give a very satisfactory opinion as to the origin of the cells, but seems inclined to believe that they are changed lymphocytes.

LARYNGOLOGY AND RHINOLOGY

Edited by C. F. Theisen, M. D.

Gonococcic Rhinitis in an Infant.—H. de Stella (Report in *Internat. Centralbl., November, 1899*) gives the history of a child two months old, who had difficulty in breathing through the nose since birth. Numerous gonococci were found in the purulent secretion of the nose. A purulent inflammation of the eyes preceded rhinitis. An otitis media developed later as well as a syphilitic roseola. An examination disclosed the fact that the father had acquired syphilis and gonorrhœa at the same time, and infected his wife.

Smooth Atrophy of the Root of the Tongue in Tertiary Syphilis.—Dr. Alfred Goldschmidt. (*Berliner klinische Wochenscrift, 23 October, 1899.*) In 1863 Virchow called attention to a smooth atrophy of the root of the tongue in tertiary syphilis. Later Lewin and Heller again brought up the question. In 6,583 sections in the Berlin Pathological-Anatomical Institute they found one and one-half per cent. of the atrophy in question. In sixty-nine per cent. of these cases of atrophy, syphilis was proved anatomically. They believe that the symptom outlasts all other appearances and is irreparable. According to Lewin there are three stages of the atrophy:

(1) A general lessening of the glands as to both size and number; (2) an absolute lack of the glands in the central part of the base of the tongue; (3) an entire absence of the follicular glands generally.

Lewin holds that the atrophy exists only in cases of acquired, constitutional syphilis and in nearly half of all observed cases of this, while no certain relation to other sicknesses can be determined. In children it is lacking and women are more affected by it than men. Skladny, on the contrary, found the atrophy also in cases of hereditary syphilis in its latest stages. He examined with Professor Schweigger all the appropriate cases of interstitial keratitis, because, in such cases, the discovery of hereditary syphilis may, with considerable confidence, be expected. He found a high percentage of cases of this kind showing smooth atrophy in cases of hereditary syphilis. This doctrine as to the presence of smooth atrophy in cases of the latest stages of syphilis has not remained without opponents. Several of these are quoted in this article. The author says that, as regards his own examinations, he must disregard the pathological, anatomical side of the matter and content himself with this question: "How does the smooth atrophy of the root of the tongue present itself clinically?" with special respect to this further question: "Is such atrophy valuable clinically as a pathognomonic symptom of syphilitic disease?"

His conclusion is that the existence of smooth atrophy is not a trustworthy symptom; that flatness of the region of the glands at the root of the tongue may be coincident with imperfect development of the entire tongue, and that therefore the tongue, like any other organ, may participate in the general degeneration of the general organism, and that, on the other hand, there are cases in which there is no tertiary syphilis, but in which, although the tongue is otherwise as well developed as in the average case, there may be found a greater or less atrophy of its root.

Remarks about Bad Breath.— B. FRAENKEL. (*Archiv. f. Laryngol. u. Rhinol., Heft. 1, 1900.*) The author states that in some cases the offensive odor does not really exist, but is a pure delusion, a subjective sensation, as in paranoia and hypochondriasis. If for example, a person one of these hypochondriacs happens to be talking to, should turn away the head, he imagines that it is on account of the bad smell he is distributing. The author only considers that class of cases in which an odor is perceptible during expiration. In order to make a correct diagnosis it is important to determine whether the odor comes from the nose or mouth. The patient is told to keep the mouth tightly closed and to blow, first through one nostril and then the other. The examining physician brings his own nose close to that of the patient, and is then able to detect any odor in the current of air. The patient then repeats this process by closing the nostrils and blowing out of the mouth. After it is determined that the odor comes from the mouth or pharynx, the suspicious places are touched with cotton so as to find out whether the odor originates in some particular part of the mouth or pharynx. Carious teeth are of course frequent causes. Retained decomposing secretions in the crypts of the tonsils frequently cause the odor. This is particularly true of secretion behind the plica tonsillaris. Applications of antiseptic solutions to the tonsils or amputation of the tonsils is the remedy. Sometimes the entire secretion of the nasal and pharyngeal mucous membrane has the disagreeable odor. In such cases antiseptic douches and mouth washes must be used. It must also be determined whether the odor does not originate in the deeper respiratory passages of the œsophagus.

The Pathology of Intracranial Suppuration of Otitic and Rhinitic Origin.— W. MILLIGAN. (*Internat. Centralbl., January, 1900.*) The author first thoroughly considered intracranial suppuration following pathological conditions of the ear, and then the intracranial complications resulting from suppurative processes in the frontal, ethmoidal and sphenoidal sinuses. Degeneration of the mucous membrane in these cavities, exposure of the bone with ulceration, and at times perforation of the same, is followed by meningitis extradural abscess, abscess of the frontal lobe, or thrombosis of the sinus cavernosus. The pathological organisms may also be transmitted by way of the vessels or through the perivascular canals without any erosion of the bone. The poor drainage favors the retention of the causes a possibility of infection of the cranial cavity at this point. In one case reported by the author an abscess of the frontal lobe followed an empyema of the frontal sinus, and in a second case a basilar meningitis and septic thrombosis resulted.

Gonorrhœal Stomatitis — In *L'Independance Medicale* for *December 13, 1899*, Petit reports an interesting case of gonorrhœal stomatitis and reviews the literature of this subject. Petit refers to cases reported by Horand, Cutler, Rosinski, Leyden, and Jesionek, in some of which the stomatitis was secondary to a gonorrhœal ophthalmia, and in some of which it was due to coitus ab ore. His own case was that of a young man of thirty who consulted him for an inflammatory lesion of the mouth, presenting as an erythematous condition with a good deal of desquamation. There was a well marked glossitis with great swelling of the tongue, and the presence of numerous small superficial ulcerations on the removal of the desquamated epithelium. The symptoms were pain, difficulty of mastication, and fever. The breath was extremely fetid and there was swelling of the submaxillary lymph glands. The patient admitted buccal coitus, but an examination of the genitals of the woman with whom he cohabited failed to show either clinically or bacteriologically any signs of gonorrhœa. Cover slips from the mouth of the man showed many biscuit shaped intra-cellular diplococci, which easily decolorized by Gram's method. Attempts to cultivate them on the ordinary culture media were entirely negative; no attempt was made to cultivate them on special media. The author is unable to account for the infection except on the grounds that the woman had a latent gonorrhœal infection which lighted up from time to time, and had been in a condition of activity at the time of the infection of his patient.

Lupus of the Nose Cured by the New Tuberculin.— Heron. *Internat. Centralbl. f. Laryngol. u. Rhin., January, 1899.* Patient was a young man aged 27, with lupus vulgaris of left side of nose, internally and externally. Nodules were also present in the lip and ear. Author treated the cases with Tuberculin R. Whole amount injected in three months was 126.5 mg. in sixty-two injections. There was very little rise in temperature after the injections. The diseased parts got entirely well.

CLINICAL MICROSCOPY

Edited by Arthur W. Elting, M. D.

Leucocytosis in Acute Lobar Pneumonia.— Loeper, in the *Archives de Médecine Experimentale for November, 1899*, contributes an article on this subject based upon an examination of twenty-one cases of pneumonia. After carefully studying the different phases of the subject he comes to the following conclusions:

Absolute leucocytosis in acute pneumonia comes on rapidly with a chill, oscillating slightly during the disease, and disappears at about the time of the crisis. This disappearance of the leucocytosis is one of the critical phenomena of the disease, The leucocytosis in acute pneumonia is above all a polynuclear leucocytosis. The polynuclear averages about eight-five per cent in moderately severe cases, ninety-two per cent in serious cases, and ninety-five per cent in fatal cases. The gradual ascent of the polynuclears indicates an almost fatal prognosis. There is a parallelism between the crisis of the leucocytosis and the urinary crisis; i. e., the reappearance of the chlorides in the urine. There is a relation of cause to effect between the leucocytosis, the peptonuria, and the elimination of uric acid. These two phenomena are directly produced by the setting over of leucocytic nucleins and the resolution of the exudate. The rare forms of cells which are found in the blood of pneumonia are abnormal forms which appear on the sixth day, the basophile after them, and the eosinophile which appear after them more or less rapidly. The abnormal form and the basophile announce the cure which the eosinphile affirm. The author states that he does not wish to insist upon the absolute character of these deductions, but states that they are of almost absolute certainty, or at any rate are extremely probable.

The author concludes by stating that he considers the increased number of polynuclears not as an indication of resistance, but as one of invasion of the organism. It is a measure of invasion and not a measure of resistance.

The Detection of the Typhoid Bacillus.—E. H. HANKIN in the *Centralblatt für Bakteriologie for November 16, 1899*, calls attention to a method for isolating the typhoid bacilli from drinking water. The method consists in adding one, two, three or four drops of Parietti's solution to tubes containing ten cubic centimetres of neutral bouillon. Each tube is then infected with a few drops of the suspected water. According to the old method of using Parietti's solution, the tube showing the most cloudiness after the end of twenty-four hours would have been picked out for examination for the typhoid bacillus. Hankin, however, does not pick out the most cloudy tube, but the one next below this in cloudiness, and from it he inoculates a second group of of bouillon containing Parietti's solution. In this second group of tubes the smallest amount of Parietti's solution added is that equivalent to the amount present in the tube of the original set from which the culture is taken. In the second set of Parietti's tubes, as in the first, the one next below the cloudiest one is selected, and from this cultures are made on litmus sugar agar. At the end of forty-eight hours these organisms which have not turned the litmus agar red are examined. Only those which morphologically resemble the typhoid bacilli are tested. The author was able by this means to isolate the typhoid bacillus in several instances, from drinking water which had caused typhoid fever, something which, as is well known, has seldom been done. The bacilli so isolated were subjected to careful tests, and were also submitted to Pfeiffer and Wright who confirmed the author's diagnosis of typhoid bacillus.

The Antibacteriological Value of Acrolein.—In the *Centralblatt für Bakteriologie for November 16, 1899*, KOCH and FUCHS give the result of their examinations of this new antiseptic. The substance belongs to the same group as formaldehyde, but differs from it in being an aldehyde of allyl alcohol, whilst formaldehyde is an aldehyde of methyl alcohol. The new substance acrolein boils at 52.5° centigrade, and is easily soluble in a strength of twenty-five per cent. in water. The authors tested the substance in one-quarter, one-half, one, two and five per cent. solutions upon various micro-organisms, such as the bacillus pyocyaneus, the colon bacillus, and the pus cocci. They conclude that one can say in general that acrolein is a stronger disinfectant than formaldehyde, and that as far as it has been tested it also gives good results in the disinfection of large rooms.

Pathogenic Micro-Organisms in the Air.—E. CONCORNOTTI in the *Centralblatt für Bakteriologie* for November 7, 1899, discusses the question of the number of pathogenic organisms found in the air. He examined in a large number of cases the air from private houses, hospitals, railroad cars, and various other places. His examinations were conducted by exposing culture media to the air for a given length of time, allowing bacteria to develop, washing the surface of the media with sterile water, and then inoculating animals. In forty-six inoculated rabbits fifteen died of infection of the staphylococcus aureus. Of the same forty-six rabbits, eight died of infection with the staphylococcus albus, six of infection with the bacillus coli communis, and two of infection with the diplococcus of pneumonia.

From his studies the author concludes that by inoculating animals intravenously with washings from agar plates, pathogenic organisms are much more easily detected than by some of the old methods. Pathogenic organisms which are found in the air are in accordance to the order of their frequency, the staphylococcus aureus, the staphylococcus albus, bacillus coli communis, and diplococcus of pneumonia. These pathogenic organisms occur most frequently in places with dirty surroundings, whether these be public or private.

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Original Communications

THE PREPARATION OF TUBERCULIN, ITS VALUE AS A DIAGNOSTIC AGENT, AND REMARKS ON THE HUMAN AND BOVINE TUBERCLE BACILLI.*

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The hope formerly entertained that tuberculin, or, more correctly speaking, Koch's old tuberculin,† possessed a specific therapeutic value has been dissipated in the realization of the fact that its unquestioned usefulness is that of a diagnostic agent. While its character and properties are generally understood by the medical professions, there are still those who doubt the experimentally tested and practically demonstrated possibilities of this substance. Of the bacterial products which in recent years have come into prominence, few if any occupy a place, either in human or comparative medicine, where an accurate and widespread knowledge of the conditions limiting their effectiveness is more urgently demanded than for tuberculin. The important position it holds in sanitary medicine, and the powerful agent it may become in the hands of those who have to do with bovine tuberculosis, emphasize the necessity of such a knowledge.

Within the limits of this paper, it will be impossible to discuss in detail the numerous questions which naturally suggest themselves in the effort to give an account of the present knowledge of tuberculin, what it is, and what it will do. I purpose, however, to treat somewhat fully of the more essential features in its preparation and in its use, which, if thoroughly understood, seem sufficient to answer many of the objections to its employment as an aid in detecting tuberculosis in cattle. Much of the honest opposition to its use, in this state at least, seems to come from a lack of definite knowledge of its true nature and powers.

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* Read by invitation before the Medical Society of the State of New York, Albany, January 30, 1900.

† It is important not to confound the tuberculin which was discovered by Koch in 1890 with the new tuberculin described by him in 1897. For a brief description of this new product see appendix.

Maragliano (*Berliner klin. Wochenschrift*, *May* 1, 1899) describes a watery extract of tubercle bacilli which he calls *aqueous tuberculin*.

At the outset it is important to note that we are dealing with a problem in which the chief factors are unmeasured and, to a certain degree, unmeasurable vital forces. In the very beginning, we are confronted with the manifestations of life itself. The problem is one in biology where unexpected deviations may occur as a natural, though unexplained, result of the immediate conditions of life. If this fundamental principle is taken into account it will teach us that many of the objections to tuberculin which have been held up as insurmountable because they were not immediately explained to the satisfaction of the objector can not, from the very nature of things, be explained until we have more knowledge of the mysterious processes of life and disease.

Tuberculin, as we know it to-day, is the concentrated liquid, usually glycerinated bouillon, on which tubercle bacilli have grown until they will grow no longer, that is, the products resulting from their multiplication and imparted to the medium have inhibited their further development. It is not definitely determined just what these products are or just how they are elaborated. Briefly stated the preparation of tuberculin consists of the following procedures, viz.:

(1) The preparation of the culture medium, distributing it in suitable flasks and inoculating it with the growth from a pure culture of tubercle bacilli.

(2) The flasks are placed in an incubator at a temperature of about 37° C. where they remain until the growth ceases. The length of time necessary to accomplish this depends upon the age and condition of the culture from which the inoculations were made. From four to ten weeks are usually required.

(3) After the maximum growth is attained the cultures are sterilized by heat, either by boiling in a closed water bath or heating to a higher temperature in an autoclav.

(4) After the sterilization the cultures are filtered to remove all of the dead bacilli, and the filtrate is evaporated, to the desired degree of concentration, over a water bath.

(5) The concentrated liquid is passed through a Pasteur or Berkefelter filter, standardized, bottled for distribution, and labelled with the name, quantity, and size of dose. It should be perfectly clear although the color may vary. If it is cloudy it should be rejected when received.

A careful consideration of these various procedures assures one that each and every step requires skilled attention. It is logical at least to presume that if each part in the process is not carefully looked after the product may, to that extent, be unreliable. Of the possible errors in its preparation, the danger of using too young cultures, that is before the required degree of saturation of the bacterial products takes place is, perhaps, the one most liable to occur. For example, if the flasks of bouillon are inoculated from an old culture several weeks may elapse before the new growth begins, but if a young growing culture is used it begins at once, or better, continues with but slight interruption as in the mother flask. However, unfavorable conditions of medium or temperature may retard these growths. It is usually the delay in getting the tubercle bacilli to begin to multiply in the newly inoculated medium that causes the variation in the length of time necessary to incubate the cultures before they contain the proper amount of the tuberculin elements.*

If the method of preparation is further examined, it will be seen that tuberculin cannot possibly contain living tubercle bacilli.

It is heated to a temperature and for a length of time far in excess of that required to destroy them on two occasions besides being passed through a filter capable of removing all bacteria. It is a physical impossibility, therefore, for tuberculin, which has been properly made, to cause tuberculosis. Whatever physiological disturbances it may excite, it can not impart that which it does not possess, namely the *contagium vivum* of the disease.

The original tuberculin or lymph of Koch was concentrated to one-tenth of the volume of the saturated cultures. This gave a thick syrupy liquid owing to the presence of the glycerine.

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* The occasional reports of poor tuberculin may be explained in this way.

Early in my experience with tuberculin, a quantity was made from vigorous cultures that had been incubated for the full time. When it was tested it failed to give a reaction. Upon seeking an explanation the notes showed that the growth in the flasks taken was retarded for three weeks and very feeble for two more. Subsequently an excellent tuberculin was made form the same original culture.

The diagnostic dose which came to be recommended for cattle of medium weight was 0.25 c. c.[*] On account of its consistency as well as the minuteness of the dose, it was found to be practicable to dilute this quantity with seven parts of a diluent. A weak solution of carbolic acid was ordinarily used. The difficulties and the dangers involved in making the dilutions in the field[†] led to the method of diluting the tuberculin in the laboratory before sending it out. This has been the practice of the Bureau of Animal Industry[‡] for a number of years. Equally as good results are obtained by concentrating the saturated culture to the point where 2 c. c. contains an equivalent of the 0.25 c. c. of the highly concentrated lymph. This process avoids the necessity of dilutions and with the addition of a few drops of carbolic acid the weaker solution keeps perfectly.

The questions which perplexed us a few years ago concerning the virulence of the tubercle bacilli to be used in making an efficient tuberculin have for the greater part been answered. Trudeau, Baldwin and deSchweinitz have experimented in this line and have published to the effect that attenuated, non-virulent tubercle bacilli will produce quite as strong a tuberculin as the more virulent forms. Thus Trudeau and Baldwin[§] obtained from non-virulent tubercle bacilli tuberculin of such strength that 0.10 c. c. usually killed six weeks tuberculous guinea-pigs. In a more recent article Trudeau[‖] makes this important statement: "My own observations so far have tended to the belief that as efficient tuberculin can be made from attenuated as from virulent cultures, but as the non-virulent cultures grow generally more luxuriantly it may be that they produce more toxin, though of less potency, while the virulent germs elaborate a more toxic product but less in quantity." de Schweinitz[**] states that "attenuated tubercle bacilli[††] did not lose the property of producing or secreting the active principle of tuberculin."

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[*] Dr. Kimball of Pittsfield, Mass,. has reported equally as good reactions with two thirds of a minium. (*The Journal of Comparative Pathology and Therapeutics, Vol. VII, 1894, p. 182.*)

[†] Dr. Cooper Curtice gaves detailed directions for making the dilutions in the field as well as for the test generally in the *Annual Report of the Bureau of Animal Industry for 1895-6, p. 283.*

[‡] E. A. de Schweinitz. *Year Book of the U. S. Department of Agriculture* for 1898 p. 111. He gives in this article, a detailed account of the method of preparing tuberculin and the results obtained from the thousands of doses which have been distributed by the Bureau.

[§] *The American Journal of the Medical Sciences, December* 1898, *January* 1899.

[‖] *Johns Hopkins Hospital Bulletin, Vol. X, (1899) p. 121.*

[**] *loc. cit.*

[††] These bacilli were attenuated in 1893 (original description, *Medical News, December* 8, 1894) and have been used since that time, he states, "with great advantage, both in preparing tuberculin and in immunizing animals against virulent tubercle bacilli."

Concerning the source of the bacilli used in making tuberculin, it seems that cultures of the human, or sputum bacillus are ordinarily employed. Tuberculin has been made from the bovine bacillus in a number of laboratories and I am told that no difference could be detected between it and that made from the sputum bacillus in its efficiency. My limited experiments confirm these statements, although the bovine culture, with which I have worked, grew more slowly and consequently required a longer period of incubation to produce a tuberculin of the same degree of potency.

Tuberculin in the dose necessary to bring out its diagnostic effect is absolutely harmless to a healthy animal. Thousands of observations which have been reported assure us of this fact. Tuberculin is in daily use in every state in the Union, in Canada and in every country in Europe, yet, so far as I can learn, not a single case of injury following its use in healthy cattle has been reported. Cases of septic infection following its use must be attributed to other causes. In tuberculous animals it produces a rise in temperature which, within certain limits follows a definite course usually terminating in from eighteen to twenty-four hours after the injection. The temperature usually begins to rise in about eight hours, giving a steady but quite rapid elevation for from one to three hours, a continuous high elevation of from four to twelve hours, and a gradual decline. This is practically constant, be the rise moderate or extreme. In addition to the elevation of the temperature there is sometimes a marked nervous chill. Why we get this reaction* is not positively determined and we need much more information upon this subject.

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*Trudeau (*Johns Hopkins Hospital Bulletin*, *July*, 1899) gives the following summary of the mechanism of the tuberculin reaction: "The most generally accepted theory at present in regard to it is, briefly, the small dose of tuberculin injected is a partly specific irritant both to tuberculous foci and to the susceptible organism in general. It produces intense hyperaemia of all tuberculous tissue in the body (local reaction), and as the result of this hyperaemia much toxin stored up in the tubercles themselves is thrown into general circulation and produces fever and characteristic symptoms which go to make up what is termed "a general reaction." That these poisons stored up in the tubercles are in part at least derived from the dead or weakened bacilli has been shown by the experiments of Babes and Proca, who found that if two sets of rabbits be injected with equal quantities of living and dead bacilli the latter react to the tuberculin test at a much earlier period than those inoculated with living germs. This hypothesis that the general reaction is brought about by toxins already stored up in the tuberculous lesions and exploded as it were by the hyperaemia produced about these lesions as a result of the test injection of tuberculin, is borne out by the fact that a greater amount of albumose can be recovered from the evaporated tuberculin collected during the reaction than was contained in the test injection, also by clinical observations which indicate that patients suffering from localized surgical tuberculous processes of limited extent, and where the vascular supply to the part is limited, require a larger test injection to produce the reaction than those who have extensive or scattered visceral lesions in highly vascular organs like the lungs." The reader is referred to this paper for a careful consideration of the vexed questions relating to tuberculosis.

THE APPLICATION OF TUBERCULIN.

The application of tuberculin in detecting tuberculosis in cattle while simple in detail, is a matter of greater moment than is sometimes thought. To understand this fully necessitates a familiarity with the procedure and the tuberculin temperature curve just described in reacting animals. In an appendix to this paper I have given the detailed directions for using tuberculin as recommended by the United States Department of Agriculture, by the Royal Veterinary College, London, and by Prof. Nocard of the Alfort Veterinary College, France.

In brief the methods may be summarized as follows:

1. The normal temperature of the animal to be tested must be determined. It is recommended that it be taken hourly or every two hours for the day preceding the test.

2. The tuberculin is injected simultaneously in the side of the neck. Care must be taken that the syringe is sterile. (It is not necessary practically to disinfect the part as cattle are quite refractory to the ordinary bacteria of the skin.) The size of the dose depends upon the preparation.

3. Beginning six or eight hours after the injection the temperature should be taken hourly or at least every two hours for fully three-fourths of a day.

4. During the time of testing the cattle should be kept quiet, free from all exposure, and fed normally.

5. In case of reaction there should be a rise of at least 1.5 deg. F. above the maximum individual normal temperature as determined on the preceding day. The elevation should come on gradually, remaining practically at its fastigium for a few hours and gradually subside. Erratic elevations of short duration are to be excluded. In case of doubt the animals should be retested.

6. Animals advanced in pregnancy, or those known to be suffering from any disease or in œstrum should be excluded. All methods of treatment including exposure to cold, kind of food and drink which would tend to modify the temperature should be avoided. Animals in which the disease is well advanced sometimes fail to react.

7. The dose should vary to correspond with the weight of the animal. In cases of a second test, within a few days, the quantity of tuberculin injected should be larger than that for the first test.

As the tuberculin reaction consists simply in a temporary hyperthermia which is ordinarily thought to be easily determined, it is not infrequently stated that the precautions imposed in its application are too stringent. In the bovine species the normal temperature varies, in comparison with man, to a marked degree. In 1897 a series of temperature determinations on healthy animals were made under my directions by Drs. Howe and Ryder.* In cattle they not infrequently found a variation of two and even of three degrees within twenty-four hours. Cold water when drunk in considerable quantities lowered the temperature from two to four degrees (see chart). A temporary excitement usually caused an elevation of from 1 to 1.5 deg. F. They found marked variations in the temperature of the same animal on consecutive days. The temperatures (taken hourly for two weeks) at 12 noon and 12 midnight were often the same. In some cases the maximum elevation occurred near midnight and on the following day the minimum temperature would appear at that time. It was not uncommon for the maximum temperature to occur twice a day and occasionally several times within the twenty-four hours. There were marked individual variations in the effect of ordinary conditions upon the temperatures such as food, excitement and temperature of the air. A hot spell (temperature 90 deg. F.) caused a rise of two and in some cases four degrees. The average temperature of the animals in the three herds tested were 102.5, 102.6 and 101 deg. F. respectively.

In a well kept government herd that was tested with tuberculin the temperature of part of the animals was taken hourly for twenty-four hours and a part of them for sixteen hours (7 a. m. to 11 p. m.) preceding the injection. An examination of the records† show the average daily variation of twenty animals in which the temperature was taken for twenty-four hours to be 2.31 deg. F. The maximum individual variation in a single day was 4.3 deg. F., the minimum 0.5 deg. F. In twenty-five others where the temperature was taken for sixteen hours the average variation was 1.79 deg. F. In these the maximum variation was 3.2, the minimum 0.6 deg. F. Ten healthy animals (did not react to tuberculin) in the same herd gave an average variation of 2.8 deg. F. In these the maximum daily variation was 4.1

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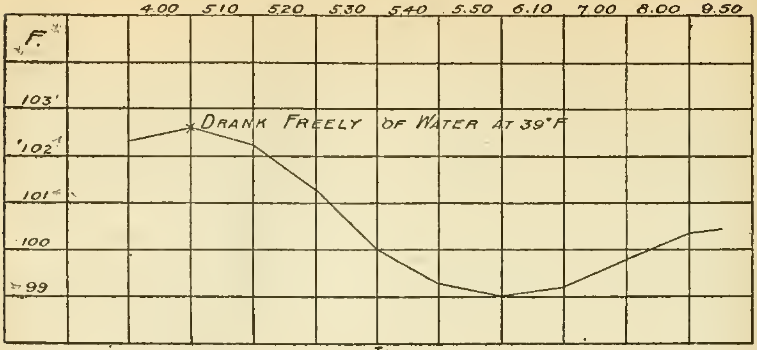
*Thesis for the degree of D. V. M. from the N. Y. State Veterinary College, 1897, deposited in the Cornell University Library.

†*Bulletin No.* 7, Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C., 1894. The tests were made under the direction of Dr. Theobald Smith, by Drs. F. L. Kilborne and E. C. Schroeder.

To Illustrate Dr. Moore's Article on "The Preparation of Tuberculin," etc.

Albany Medical Annals, June, 1900.



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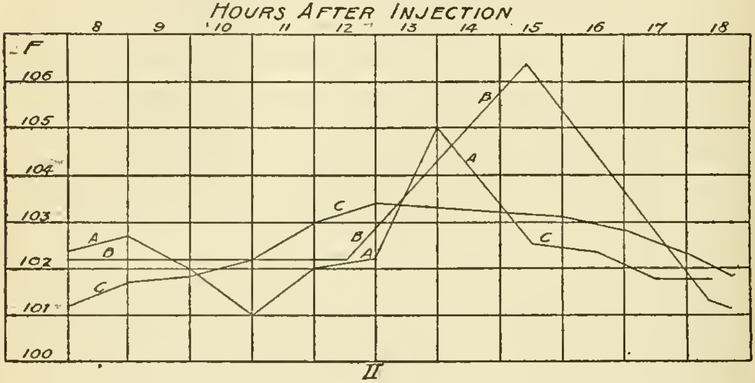

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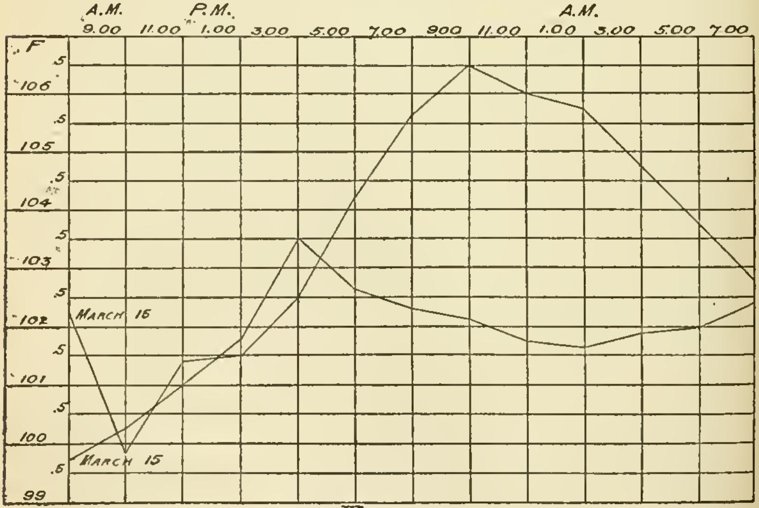

III

DESCRIPTION OF PLATE.

Fig. 1. A curve illustrating the effect of a drink of cold water on the temperature of a cow.

Fig. 2. Temperature chart of three non-tuberculous cows.
A and B show marked elevations of temperature for a short period only.
C represents an ordinary normal variation.

Fig. 3. This represents the temperature taken hourly of a cow for twenty-four hours preceding (March 15) the injection of tuberculin and for twenty-four hours after the injection. The tuberculin was injected at 9 A. M., March 16.

the minimum .1 deg. F. The lowest temperature was usually but not invariably, in the morning, and the highest in the afternoon or evening. I have appended the records of the temperature of two of these animals.

THE INITIAL TEMPERATURE OF TWO COWS

HOUR	No. 319*			No. 318†		
	TEMPERATURE	PULSE	RESPIRATION	TEMPERTURE	PULSE	RESPIRATION
9 A. M.......	99.8	48	18	99.8	48	15
10 A. M.......	99.5	66	18	98.6	60	15
11 A. M.......	99.0	60	15	99.0	60	15
12 A. M.......	100.8	54	15	99.4	54	15
1 P. M.......	101.4	54	15	100.0	54	18
2 P. M.......	101.6	48	15	100.2	54	18
3 P. M.......	102.0	60	24	101.4	72	24
4 P. M.......	103.0	66	24	102.7	72	24
5 P. M.......	103.3	66	24	102.8	72	27
6 P. M.......	103.1	57	18	102.0	60	27
7 P. M.......	102.2	60	20	102.4	66	24
8 P. M.......	103.0	56	16	102.0	60	24
9 P. M.......	103.1	52	24	102.2	60	24
10 P. M.......	102.5	60	20	102.0	56	18
11 P. M.	102.5	60	20	102.0	60	20
12 M. night...	102.4	56	16	101.6	64	20
1 A. M.......	101.8	60	20	101.4	56	24
2 A. M.......	102.0	64	18	102.2	52	18
3 A. M.......	102.0	60	18	101.6	56	18
4 A. M.......	102.2	54	24	101.5	60	24
5 A. M.......	101.6	56	24	102.0	60	18
6 A. M.......	101.8	60	18	102.2	72	20
8 A. M.......	102.5	56	16	103.2	60	18.

*Did not react.

†Gave a maximum reaction of 107.4°F.

With a knowledge of these normal variations, which often exceed the tuberculin reaction, it is obvious that before applying the test the normal temperature of the animals should be approximately determined and when they are being subjected to the test they should be cautionsly protected. Otherwise the comparatively slight elevation necessary to detect the disease may be disguised.

As the reaction seems to be the result of an affinity existing between tuberculin and a living tuberculous lesion, it is natural to suppose that when the two are brought together in the same animal it would invariably take place. Experience has shown that it almost always does. It is important, however, that we understand as far as possible, the reason for the exceptions and the extent to which they occur. Exceptions or errors in the tuberculin test fall into two classes, viz.: (1) where there is a reaction and no disease is found and (2) where there is no reaction and the disease exists.

In explaining the first of these alleged errors, the records of the cases which have come to my attention have been so deficient in data concerning the normal temperature variation of the animal, and in the completeness of the post-mortem examination, that I have felt the probability that the error rested with the observer quite as much as with the tuberculin. Unfortunately, we are yet unable to determine, by the reaction, the extent of the disease, so that a beginning lesion no larger than a pea may cause a pronounced rise of temperature and such a tubercle may be difficult to find especially if located in the marrow of some bone. As to the second class, it is generally admitted that advanced cases often fail to react but here the test itself is of little importance as the disease can be detected by the ordinary clinician on physical examination. The occasions are quite numerous where this has happened. A reaction may not occur in rare cases where the disease is recent and active. Medical science recognizes individual idiosyncrasies in respect to the action of other specifics, and all laws in the biological world admit of exceptions and variations, why then should tuberculin and the tuberculous animal be debarred from this universally acceded privilege? When, however, tuberculin is carefully prepared and scientifically administered, these exceptions are exceedingly rare. I have no personal knowledge that they ever occur.

The practical value of tuberculin, however, lies in its efficiency in the arts of comparative and sanitary medicine. It is in the practical application that difficulties are encountered. The many details and precautions enumerated as absolutely essential to the best results are often considered too tedious and time consuming, and consequently the practice has come too generally into vogue of neglecting or ignoring many of these instructions. In order that the test may be practicable it seems to be necessary to resort to the shorter method even at the risk of an occasional failure. Moreover, the reaction is usually so well marked that the disease can nearly always be detected by the usual procedure. If, however, a diseased animal escapes by virtue of neglecting precautions in making the test, the error is chargable to the method and not to the tuberculin.

As tuberculin is a commercial product, it can be procured and used in private practice by those who are not competent, professionally, to do so. It is the errors incident to ignorance or worse, deliberate deviations from truth, that have led to most of the charges against its use. Tuberculin can not give knowledge to the ignorant or virtue to the corrupt, but like other chemical reagents when the conditions are right it produces its specific effect. It is the task of the tester to see that this effect is differentiated from somewhat similar manifestations which may arise from other causes, and that its reaction is accurately recorded. Tuberculin can not disclose irregularities but if it is put in the hands of those who know its powers and how to use it, it will take a knave indeed to prevent its reaction or to disguise the same from him who applies it.

If we exclude, as we should, the objections to tuberculin due to the deliberate intention to deceive, and again search the records, we find that even the unskilled and often careless user obtains most remarkably accurate results. Omitting practically all of the precautions enjoined, and following the shorter procedure of most practitioners, we can not find positive evidence of five per cent. of error. When but one initial and but three or four subsequent temperatures are taken and little or no attention is paid to the other influencing conditions; an error of not more than five or even of ten per cent. speaks in unmistakable terms for the efficiency of this agent.

Tuberculin has been thought to be inefficient because in certain dairies where it has been used and the reacting animals removed the disease has subsequently appeared. In all such herds of which I have knowledge, there is a reasonable explanation for such a recurrence in one or more of the three following conditions, viz.: (1) the advanced cases which did not react were not detected on physical examination and removed or, (2) the disinfection of the premises was imperfectly done or, (3) certain animals may at the time of the test have been infected but the lesion or tubercle not yet developed. It is not yet determined how long a tubercle bacillus may remain on the mucous membrane or in the tissues before it begins to multiply but undoubtedly a number of days may intervene. It is not claimed that tuberculin will produce a reaction during this period of incubation. On account of these possible conditions it may be necessary to apply the test a second or even a third time before all traces of the disease can be detected and the infected animals removed.

Its use as a protection, in introducing new animals, has been questioned on the ground that a single dose produces immunity so that an unscrupulous owner could protect animals against the legal test. Concerning this point Dr. Leonard Pearson writes,* "As to the failure of animals to react a second time after they have been tested with tuberculin, I would say that such a failure is distinctly exceptional. Recently a herd of cows was tested in Philadelphia by an agent of the city Board of Health, eighteen cows reacted. The herd was tested again within ten days by an agent of the Live Stock Sanitary Board and the same eighteen cows reacted. A double dose of tuberculin was used for the second test." The records of repeated injections within very short periods are not numerous. We have already made a few such tests and others are in prospect so that it is hoped that very soon we may have satisfactory data on this point. Three consecutive injections within ten days in a young animal (three months) gave a decided reaction each time. The dose was 0.25 c. c. of the diluted tuberculin. A fourth injection failed to give a reaction. A second case gave like results. A cow failed to react on the fourth test. At post-mortem she showed extensive lesions in the lungs, mesenteric glands, and intestines, and the mucus in the throat and trachea contained innumerable tubercle bacilli. Nocard has said that "about ten per cent. of the tubercular cows that react to the test will fail to react to a second one if it is made within one month and then after each test about ten per cent. more will fail to react to the following one." Pearson believes that this represents about the true proportions. The records available, however, indicate that a ten per cent. failure on second test is somewhat high. It has been quite clearly shown that by increasing the size of the dose which can be done with impunity the resulting resistance from a single dose can be overcome.† It is possible that rarely a tuberculous animal could escape under such a temporary immunity, but if a second test was applied a few weeks later, the purchaser could be reasonably assured against the disease.

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*A private letter to the writer, bearing the date of January, 4, 1900.

†Roux and Nocard (*Recueil de Med.*, 1891) state that they have a tuberculin which will give reaction almost indefinitely. They have not, however, described its method of preparation.

The value of tuberculin is no longer questioned by those who have come to a knowledge of its searching diagnostic powers and harmlessness to healthy and diseased animals. The cattle owners who, through their veterinarians, have used it privately and who would bear witness to this statement are very numerous. In the state of Pennsylvania where the percentage of tuberculous cattle in infected herds has been reduced during the last few years from twenty-five per cent. to eleven per cent.* and where within a month the people have demanded the reappointment of the veterinarian who has had the work in charge, the official application of tuberculin has been restricted to those who have been instructed and found to be qualified to use it. This fact bears evidence for the theory that in order to reduce the present errors of five or perhaps ten per cent. to a minimum, efficient tuberculin must be administered by competent and honorable people only.

If we summarize the facts as they are, and the convictions of those who from experience have a right to express themselves on this important topic, we tend to these conclusions:

1. That properly made tuberculin, scientifically applied, will indicate the presence of active tuberculous lesions in practically every animal where the disease is not sufficiently advanced to be detected on physical examination. It is not infallible but positive proof of its failure, under the conditions specified, exists at the most in rare cases.

2. The available evidence does not indicate that over five per cent. of errors exists in interpreting its effects when applied as it now is by the ordinary practitioner and often by those unskilled in its use.

3. A majority of the objections raised to the use of tuberculin as a diagnostic agent have their origin in (1) the errors of the incompetent, (2) the victims of the unscrupulous or, (3) with those who seeing refuse to admit the existence of tuberculosis as a specific disease.

4. Full information concerning the best method for its preparation, its composition, its mechanism in producing a reaction,

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Proceedings of the American Veterinary Medical Association, 1899.

and the reasons why in rare cases it may not give its specific reaction are topics for further investigation.

5. The preparation and the application of tuberculin, while simple processes, involve a consideration of such a variety of conditions, nearly all requiring technical knowledge, that they should not be attempted or allowed to be performed excepting by those who are competent and qualified to do so.

BOVINE AND HUMAN TUBERCLE BACILLI.

I was requested by your committee to point out the differences existing between human and bovine tubercle bacilli. There are numerous popular statements to the effect that these bacilli are entirely different and consequently there can be no intercommunication of tuberculosis between cattle and men. In view of the obvious injury these assertions are working to the cattle industry,[*] by checking the active progress which was being made in detecting and eliminating tuberculous animals from the dairies of the State, to say nothing of the sanitary problems involved, it seems desirable to make a few remarks on this topic. The most I can hope to do, however, is to call attention to the results of certain investigations which have enlightened us on this subject and which unfortunately have been charged with proving the specific distinction of these organisms.

From the time of the discovery of the tubercle bacillus in man and the lower animals until quite recently, it was generally believed and so asserted by the authorities on this subject that the bacilli from different species of mammals were identical. It was not, I think, until Smith's publications[†] that doubts of a serious nature have arisen concerning the validity of these statements. The former opinions were based largely on the similarity in their general morphological characters, micro-chemical reactions, and the similarity in their pathogenesis for the susceptible guinea-pig. Contrary to the general belief, the cultivation of tubercle bacilli from tuberculous lesions in cattle or other animals has been a very difficult task. To obtain pure cultures of tubercle bacilli directly from tuberculous lesions was the fortune of but few bacteriologists until the development of the present method of isolating them which was formulated and published by Theobald Smith in 1898 (III). Since that time, more attention has been given to this subject and a comparative study of tubercle bacilli from different sources especially from cattle and man is being made in a number of laboratories. We have reason to expect therefore that within the next few years much new information concerning these organisms will be forthcoming.

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[*] For nearly three years there was a gradual but steady increase in the demand for tuberculin for the private testing of cattle. The work of the tuberculosis committee in an educational way in getting farmers interested in the subject for their own benefit was beginning to bear much fruit. As soon, however, as the statements began to appear, especially in the agricultural papers, that these bacilli were distinct species and that the disease was not transmissible from cattle to man the demand for tuberculin fell from over a thousand doses a month to practically none at all. More recently the demand has increased so that this month nearly five hundred doses have been sent out.

[†] (I). *Transactions of the Association of American Physicians. Vol. XI* (1896) *p.* 37.
(II). *Annual Report of the Bureau of Animal Industry*, (1895-6.) Published early in 1897.
(III). *The Journal of Experimental Medicine, Vol. III* (1898) *p.* 451.

At the present moment, most of our knowledge on the subject of varieties or races of tubercle bacilli are contained in the papers by Theobald Smith. The high character of the work precludes the further unqualified acceptance of the former theory of the identity of tubercle bacilli, and it does not warrant the acceptance of the assertion which those unfamiliar with such work have made, that they are entirely distinct species. Notwithstanding, the numerous statements that human and bovine tubercle bacilli are entirely different species, there is nothing in the results of the investigations thus far published to support such an extreme statement.

In order that we may not misconstrue the results of Smith's investigations and that we may not draw unjustifiable conclusions, I have appended his own statement concerning (1) the morphology and the cultural differences of these bacilli, and, (2) the pathogenesis of the different cultures as tested on a variety of species of animals. He worked with pure cultures isolated from human sputum, tuberculous cattle, a horse, a cat and a pig. For the details of these experiments the reader is referred to the original article (III).

I. *Concerning morphology and cultures.*

1. Bovine and other animal bacilli (except *Nasua*, which is regarded as coming from man) grew less vigorously for a number of generations than the sputum bacilli. Sputum I is an exception and is probably an atypical form.
2. Bovine bacilli are much less influenced by certain modifications of the culture-medium.
3. Bovine bacilli tend to remain short; human bacilli are either more slender from the start or become so during cultivation.

II. *Results of inoculations in rabbits.*

The divergences noticed when rabbits weighing between 1300 and 2200 grammes are inoculated into an ear-vein with 0.5 c. c. of a well clouded suspension of tubercle bacilli in bouillon are as follows:

1. Death of the bovine cases in seventeen to twenty-one days.
2. Rapid evolution and necrosis of the pulmonary tubercle with very great increase of the tubercle bacilli in them.
3. Death of the sputum rabbits (one explainable exception) did not ensue, but after 1½ to 3½ months the original weight had been more or less exceeded.
4. The pulmonary tubercles in the sputum rabbit developed very slowly, with very little tendency towards necrosis. The bacilli were present in very small numbers only.
5. The swine and cat cultures are to be classed with the bovine, the horse culture stands intermediate.

III. *Results of last experiment in inoculating cattle with bovine and human (sputum) tubercle bacilli.*

The points of difference between the inoculated disease produced by these bacilli are several:

1. The bovine cases either remain stationary in weight or lose slightly, while the sputum cases gained seventy-five to eighty-five pounds. Still the age of one of the bovine cases may be partly responsible for stationary weight.
2. There was marked fever in the bovine cases for three weeks after the inoculation; practically none in the sputum cases.
3. There were well-marked differences in the lesions produced. In the sputum cases the lesions are nearly the same and consist in: (a) A tumor in the right caudal lobe of the lung, about one inch in diameter, projecting somewhat above the surface of the lung. This represents the place where the needle penetrated into the lung tissue and deposited the tubercle bacilli. In each case the contents of this tumor were softened and converted into a curdy mass, enclosed in a thin-walled capsule, smooth internally. The disease was not spreading from this point nor were tubercles visible in the lymph glands of the lungs and thorax, excepting in one gland of No. 39 (Sputum V). (b) The free margin of the right lung and the pleural covering of the ribs on the right side were beset with a new formation of loose vascular

fringes or shreds in which in only one case some minute nodules could be felt, and some flattish, pediculated masses, which did not resemble tubercles at all histologically, or which were only abortive forms of the same.

Among the bovine cases we have the following characteristic points to note: (a) Disseminated tuberculosis of the lungs, severest and fatal in No. 71, the youngest; least pronounced in the oldest, No. 38. Associated with this a local disintegrated focus in the lungs of No. 88. (b) Tuberculous deposits on lungs, pericardium, diaphragm and the ribs, resembling closely the products of the natural disease in cattle. Extension of the eruption of the costal pleura of the left side. (c) Extensive tuberculosis of all or nearly all the lymph glands of the thorax, including both mediastinal chains. (d) Slight tuberculosis of other organs, spleen, liver, kidney, in two out of three cases.

A summary of the three separate tests on cattle (including the published experiment), in which twelve animals were used, shows that six animals were inoculated with human bacilli, five with bovine bacilli; one animal was inoculated with swine bacilli.

Of the sputum cases one showed no disease; two showed very slight lesions; three showed only local lesions without dissemination.

Of the bovine cases two died of generalized disease; two showed extensive lesions; one showed less extensive lesions."

In the swine cases the lesions were less extensive than in the bovine cases.

In the guinea-pig few well defined differences were found owing to the great susceptibility of this species.

The most conspicuous differences between the human and bovine bacilli brought out by these experiments is the marked increase in virulence of the bovine over the sputum bacillus especially for rabbits and cattle. This result has already been confirmed by Adami* and Pearson.**

In the light of these carefully determined differences the conclusions that there are varieties or races of tubercle bacilli can not be gainsaid. In this respect, however, they do not differ from many other pathogenic bacteria.

Concerning the differences in morphology Pearson (l. c.)

**The Canadian Journal of Medicine and Surgery, December*, 1899.

***loc cit.*

writes, "As to the morphology I would say that this can be changed materially by passing through a single animal. For example, if a culture of short, thick bacilli from the cow is used for inoculating the pig or the goat, the bacilli recovered after the death of the inoculated animal are, in some instances, longer, more slender, and frequently beaded."

Smith has made it clear that for certain animals the bovine variety of tubercle bacillus is more virulent than the human variety. If this is uniformly the case as it seems to be for nearly all animals, Pearson finding it so for the horse, goat, sheep, pig, dog, cat, guinea-pig and rabbit, is it not possible that it is likewise more virulent for the human species? In a report on tuberculosis issued by the Council of the British Medical Association (18th January, 1899), the following statement is made: "The mortality from tuberculosis in early childhood is not decreasing as it is at other ages in the United Kingdom, and the opinion that this great prevalence of the disease in infancy and childhood is due to infection through the alimentary canal by milk from tuberculous cows appears to be well founded."

It is unwise to speculate upon the possibilities so long as there is hope that in the near future conclusive evidence may be recorded. We are growing in the knowledge of this important subject and when the time comes we will know the truth. At present, we have convincing proof of varieties among tubercle bacilli, but it never has been stated so far as I can learn by those competent to give an opinion that human and bovine tubercle bacilli are specifically different.

APPENDIX

I. *Koch's new tuberculin.*

After the discovery of tuberculin Koch again turned his attention towards the discovery of a substance that should render the system immune to the bacilli themselves. He experimented for over a year with a normal natron lye extract of tubercle bacilli which is designated as *tubercle antitoxin.* It was found that small injections of this substance produced results analogous to those of tuberculin, but that the effects lasted somewhat longer and were more certain. Larger doses produced abscesses at the place where the injections were made, that could only be explained as being the effect of the dead bacilli contained in the preparation.

The bacteria were completely removed by filtration, and it was found that no more abscesses were produced, but that the effects of the injections were in no wise superior to those of tuberculin. This discovery led Koch to the conclusion that as an abscess is invariably caused by a certain dose, it is impossible to render the system immune to the bacilli of tuberculosis by hypodermic injections of the unchanged bacilli.

His subsequent efforts were directed toward the discovery of a method of breaking up the bacilli by mechanical means in order to facilitate their absorption. He had discovered in previous experiments that the bacteria of phthisis consist of two peculiar chemical components which belong in the category of under saturated fatty acids. One of these acids is soluble in dilute alcohol, and is easily turned to soap by contact with natron lye; the other is only soluble in pure boiling alcohol or ether, and is very difficult to convert into soap. These fatty acids are shown by microscopic examination to form a cohesive and protective layer around the bacilli which prevents its absorption. For some time, the various attempts to destroy this protective coating failed utterly. It was only when the cultures were well dried and beaten in a mortar for some time that the number of bacilli commenced to decrease. To get rid of those that remained, Koch placed the substance that had been beaten in the mortar in distilled water and subjected it to the action of a powerful centrifugal separator. The products obtained by this process were a white, opalescent, and completely transparent fluid, which contains no bacilli, and a slimy, viscid sediment. This sediment is subjected to the same treatment as the bacilli and the above described process is repeated until the entire sediment is dissolved into a series of clear fluids. Koch experimented with the fluids obtained, first upon animals and then upon human beings and found that the first fluid possessed different qualities from the fluids that had been obtained by a repetition of the treatment in the centrifugal separator, all of which possessed identical qualities.

The fluid that had been subjected to the centrifugal separator once is designated tuberculin O or TO. The different fluids obtained by repetitions of the original processes are designated as tuberculin R or TR.

The properties of tuberculin O are very similar to those of tubercle antitoxin except that it causes no abscesses. Tuberculin R has the important property of rendering the system immune to the different components of the tubercle bacillus. Koch demonstrated this quality of TR by a large number of experiments.

II. *Directions for using tuberculin.*

The regulations prescribed for many years by the Bureau of Animal Industry for the use of tuberculin in testing cattle are as follows:* "The febrile reaction in tuberculous cattle following the subcutaneous injection of tuberculin begins from six to ten hours after the injection, reaches the maximum nine or fifteen hours after the injection, and returns to normal eighteen or twenty-six hours after the injection."

In conducting the test the following course is recommended to those who wish to obtain the most accurate results:

1. Begin to take the rectal temperature at 6 a. m., and take it every hour thereafter until midnight.
2. Make the injection at midnight.
3. Begin to take the temperature next morning at 6 o'clock, and continue as on the preceding day.

To those who have large herds to examine or who are unable to give the time required by the above directions, the following shortened course is recommended:

1. Begin to take the temperature at 8 a. m., and continue every two hours until 10 p. m. (omitting at 8 p. m. if more convenient).
2. Make the injection at 10 p. m.
3. Begin to take the rectal temperature next morning at 6 or 8 o'clock, and every two hours thereafter until 6 or 8 p. m.

Each adult animal should receive two cubic centimetres (about thirty minims) of the undiluted tuberculin as it is sent from the laboratory. Yearlings and two-year olds should receive 1 to 1½ cubic centimeters according to size. Bulls and very large animals may receive three cubic centimeters. The injection is made beneath the skin of the neck or shoulders.

There is usually no marked local swelling at the seat of the injection.

There is, now and then, uneasiness, trembling, and more frequent passages of softened dung. There may also be slight acceleration of the pulse and of the breathing.

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*Dr. de Schweinitz, *Year Book U. S. Department of Agriculture,* (1898) *p. 111.*

A rise in temperature on the day following the injection of two or more degrees F. above the maximum observed on the previous day should be regarded as an indication of tuberculosis. For any rise less than this a repetition of the injection after three to six weeks is highly desirable.

In rare cases the temperature may rise in the absence of any disease, it may fail to rise when tuberculosis is present.

It is hardly necessary to suggest that, for the convenience of the one taking the test, the animals should not be turned out, but fed and watered in the stable. It is desirable to make note of the time of feeding and watering.

The directions for using tuberculin issued by Professor McFadyean from the Royal Veterinary College, London:

1. While under the tuberculin test cattle ought to be kept in the house, fed on their usual food, and protected from draughts.

2. The dose of tuberculin for a medium-sized cow is three cubic centimeters, or fifty minims, and it may be varied a little above or below that, according to the size of the animal.

3. It ought to be injected under the skin with a clean hypodermic syringe. The most convenient points are in front of the shoulder, or on the chest wall beneath the point of the elbow. The best form of syringe is one wtih an asbestos piston, as the whole instrument may be sterilized by boiling it in water for five minutes before using.

4. The tuberculin must be injected into the subcutaneous connective tissue, and care must be taken that the whole dose is introduced.

5. The temperature must be taken at the time of injection, and at the sixth, ninth, twelfth and fifteenth hours afterwards.

6. Animals in which the temperature, during the fifteen hours following the injection rises gradually to 104 deg. F., or more, may be classed as tuberculous, and those in which it remains under 103 deg. F. as not tuberculous. When the maximum temperature attained is under 104 deg. F., but over 103 deg. F., the case must be considered doubtful, and the animal may be retested after a month.

7. The test is not reliable in the case of animals in the last stage of the disease, or in those in which the temperature is over 103 deg. F. before injection.

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*Legg, *Cattle Tuberculosis*, 1899.

8. The tuberculin should be kept in a cool place, and protected from the light. Should it become turbid or cloudy, it must not be used.

9. The tuberculin test does not render the milk in any way injurious.

III. *Recommendations for the use of tuberculin* by Prof. Ed Nocard, Alford Veterinary College, France.*

1. Tuberculin possesses an indisputable specific action on tuberculous cattle, which betrays itself especially by noteworthy elevation of the temperature.

2. The injection of a strong dose, say thirty to forty centigrammes, according to the size of the subject, generally causes in tuberculous animals a rise in temperature between one and a half and three degrees.

3. The same dose injected into healthy cattle causes appreciable febrile action.

4. The febrile reaction appears most frequently between the twelfth and fifteenth hour after injection, sometimes after the ninth hour, very rarely after the eighteenth, and always lasts several hours.

5. The duration and intensity of the reaction have no relation to the number and gravity of the lesions; it seems, even, that the reaction may be most distinct in cases where, the lesion being very limited, the animal has retained the appearances of health.

6. In very tuberculous subjects, consumptives in the true sense of the word, especially in those which are feverish, the reaction may be little marked, or even absolutely nil.

7. It is wise to take the temperature of the animals morning and night for several days before the injection, as one may have to deal with animals who, under the influence of a temporary ailment or trifling pathological condition, such as disorder of the digestion, present great oscillations of the temperature; hence an important source of error. In the case of these animals it is better to postpone the operation.

8. In certain tuberculous animals which are not feverish, the reaction following the injection of tuberculin hardly exceeds a degree. Therefore, as experience shows that in perfectly healthy animals the temperature may undergo variations of a degree or

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*Nocard, *The Animal Tuberculosis*, 1897.

more, one must only consider, as having a real diagnostic value, reactions of more than 1.4 deg. C. An elevation of temperature of less than eight-tenths of a degree has no meaning. Every animal whose temperature undergoes an elevation included between eight-tenths of a degree and one to four degrees must be considered under suspicion, and will have to undergo, after an interval of a month or so, a new injection of a larger dose of tuberculin.

To these conclusions the following must be added:

(a) Successive injections repeated daily, or at intervals of some days, give reactions gradually less intense. There is produced a veritable toleration of the action of the tuberculin. My experiments seem to establish that this toleration is very temporary. In the case of several tuberculous cows submitted to injections every fifteen days, every twelve days or every eight days, I have registered, eight or ten times running, rises of temperature practically equal.

(b) The tuberculous calf reacts just as well as the adult; the dose should vary from ten to twenty centigrammes.

(c) The injections of tuberculin have no troublesome effect on the quantity or quality of the milk, or on the progress of gestation. This observation is the result of a considerable number of experiments made on cows in full lactation, and at all periods of gestation.

PRIMARY SIMPLE ACUTE ENDOCARDITIS.*
A CLINICAL OBSERVATION.

By HENRY HUN, M. D,,
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Although valvular diseases of the heart have been the object of much study and are as thoroughly understood as is any part of clinical medicine, yet the endocarditis which produces them has been, in its active stage, the object of but comparatively few clinical observations. Endocarditis is usually secondary; and its symptoms are either masked by those of the primary disease, or run such a latent course that they escape detection and have entirely ceased when the symptoms of the valvular defect reveal not the active endocarditis, but rather the injury which it has done. Our knowledge then of the commonly occurring secondary endocarditis is very obscure, while a primary acute simple endocarditis has been so rarely described that not only are its symptoms uncertain, but its very existence has been doubted.

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*Contributed to the Festschrift in honor of A. Jacobi, to commemorate the 70th anniversary of his birth.

Indeed, judging from the statements made in many of the modern text-books of medicine, there is a widespread skepticism as to the possibility of the occurrence of a primary non-malignant endocarditis. Whittaker, who fully adopts the belief, which seems steadily to be gaining ground, that no distinct line can be drawn between the malignant and non-malignant forms of endocarditis, in his very complete article on this disease in *The Twentieth Century Practice of Medicine* (vol. iv, page 145), states that "endocarditis is, therefore, never primary; it is always a secondary process." In Osler's *Practice of Medicine*, every sentence in which seems to be a condensed summary of a large amount of clinical and pathological experience, is the statement (p. 699, 3d edition) that "simple endocarditis does not constitute a disease of itself, but is invariably found with some other affection."

These statements and similar ones can be found in many modern text-books of medicine, would certainly be true were endocarditis produced by toxines, but proof has been accumulating rapidly of late years that acute endocarditis, both simple and malignant, is caused by the growth of bacteria on the endocardium. Thus, to mention one of many similar investigations, Dessy (*Lo Sperimentali*, lii., 1) in thirty-six cases of endocarditis found bacteria in the tissue of the valves of thirty-four. The other two were cases of marantic thrombosis without inflammatory changes in the valves. It seems quite possible that the endocardium, notwithstanding its sheltered position, may, under exceptional conditions, be the primary, not the secondary, seat of this bacterial growth, although such cases are naturally of extreme rarity. The following case seems to show that this theoretical possibility is also a practical one, and in view of the widespread doubt as to the existence of a primary non-malignant endocarditis it seems wise to publish a case of this disease which was under observation not only during its whole course but also before and after it, which appears to challenge these statements of Whittaker and Osler and which seems in other regards also to be worthy of record.

E. B., female. Age 13 years. Nothing can be learned definitely about her family history further than that her father suffered from chronic rheumatism. She has lived in an Orphan Asylum during the last four or five years, and nothing noticeable has occurred during that time, except that she had a mild but typical attack of typhoid fever in the summer of 1896, the temperature reaching the normal point on August 30th. During this attack the chest was examined and no cardiac lesion was found.

On the night of November 20, 1896, the patient was attacked by a severe pain in the region of the apex of the heart. This pain was very severe and many applications were made without giving her any relief, so that the child could not sleep and passed a very nervous and restless night and was slightly delirious. On the afternoon of the next day, when I saw her for the first time, she was coughing, complaining of intense pain just below and outside the apex beat, had a high temperature and was extremely prostrated. Her prostration suggested pneumonia but her cheeks were pale and presented no flush. She had an eruption of herpes labialis. She was somewhat nauseated. On physical examination nothing could be found except a slight prolongation of the first sound of the heart. The heart's action was rapid and slightly irregular. She was given small doses of morphine for the relief of the pain. The subsequent history is shown by the following excerpts from the clinical records and by the accompanying chart.

Nov. 22. The patient remains in about the same condition, complaining of the intense pain, which is somewhat relieved by morphine and by hot applications, and suffering from nausea and cough. The physical signs are the same as they were yesterday except that there are a few moist râles in the left axilla. The temperature and pulse continue elevated, even more so than yesterday, as can be seen by the accompanying chart. She is taking a teaspoonful of whiskey three times a day and one grain of quinine four times a day.

Nov. 23. The patient complains of slightly less pain. Her nausea has ceased. Her prostration continues to be extreme. Her temperature and pulse continue elevated and the heart's action is irregular and tumultuous. The herpes on the lips is well marked. The râles in the left axilla have entirely disappeared, and there is now heard at the apex a distinct cardiac murmur which is so confused that its exact character cannot be made out. There is no enlargement of the cardiac area of dulness and no accentuation of the pulmonic second sound. The lungs seem to be clear throughout. On abdominal examination nothing abnormal is found.

Nov. 25. Patient is in much less pain, but continues extremely prostrated. The cardiac action continues rapid and irregular. There seems to-day to be a distinct systolic murmur at the apex. No friction rub nor other sign of pericarditis can be detected.

Nov. 26. Until to-day bowels have been constipated. To-day there is a return of the nausea and moderate diarrhœa (6 stools in 24 hours).

Nov. 27. The patient is free from pain, but quite dull and prostrated. To day the murmur at the apex seems to be distinctly presystolic.

To Illustrate Dr. Hun's Article on "Primary Simple Acute Endocarditis."

Albany Medical Annals, June, 1900.

DR. HENRY HUN. **TEMPERATURE CHART.**

Name E B Case Number. Date November 1899

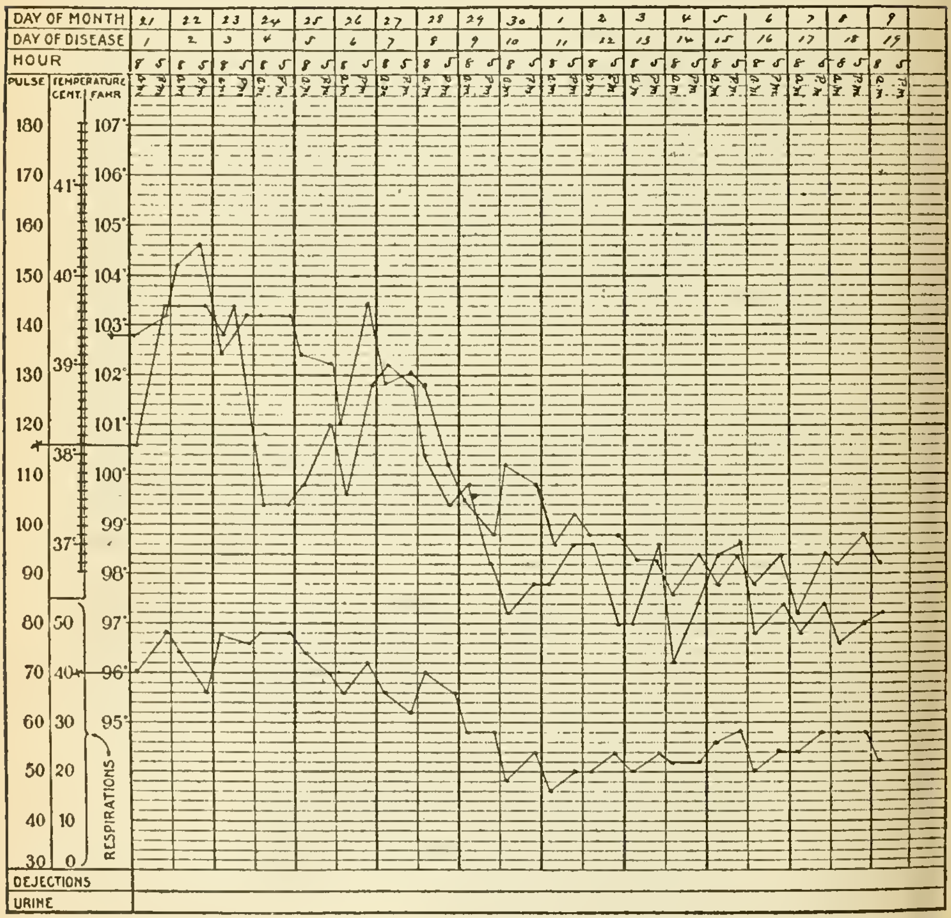

Chart of Temperature and Pulse. — Case of Primary Simple Acute Endocarditis.

Nov. 28. The murmur at the apex is distinctly presystolic to-day. There is no increased area of cardiac dulness. No accentuation of the pulmonic second sound. The examination of the lungs and abdomen reveals nothing abnormal. The herpes is gradually drying up from the lips. Bowels normal. Slight cough.

Dec. 1. Patient is feeling very much better. and wishes to sit up in bed. There is a distinct presystolic and systolic murmur at the apex with indistinct presystolic thrill. There is no accentuation of the pulmonic second sound, and the area of cardiac dulness is not increased.

Dec. 8. Patient is sitting up and dressed, but does not walk around much. She is rapidly regaining strength, and has had no pain for a long time, her heart's action has slowly decreased in rapidity and has become entirely regular. The cough has ceased and nothing can be found abnormal in the lungs or on abdominal examination.

Dec. 19. The patient has not been seen since last record. She is up and walking about, although she is quite feeble. She has lost much flesh during her illness. To-day there is a distinct presystolic thrill at the apex and a distinct double murmur, of which the presystolic is the more intense and is heard over a limited area just inside the apex beat; while in the axilla only the systolic murmur is heard. The area of cardiac dulness is now distinctly enlarged, commencing above on the upper margin of the third rib, running just outside of the left nipple and extending to the right border of the sternum. There is also a distinct accentuation of the pulmonic second sound, which is louder than the aortic second sound. Apex beat is just inside the mammary line, about one-half inch below the nipple. The child is bright and lively, which is a great contrast to the prostrated condition she was in a month ago. On the fingers are some indistinct nodes and one large and distinct node on the terminal phalanx of each little finger just proximal to the base of the nail. There are also little nodules in the posterior triangle of the neck on each side, which may be rheumatic nodes or may be very small lymphatic glands.

There can be little doubt from the physical examination made in August and on November 21st that previous to this attack of illness the child's heart was healthy, and there can be still less doubt that the attack itself was one of endocarditis.

The case was recognized as a peculiar one from the outset. At first the lungs were daily examined with great care in the idea of finding some sign of pleurisy or pneumonia, but none such was found. The most careful examination revealed nothing abnormal except that on the second day of the illness, during a few hours only, a few moist rales were heard in the left axilla. After the first day or two, when it was evident that the case was one of endocarditis, the most careful search was made in the joints and elsewhere for any sign of rheumatism, but none such could be found until the fourth week of the illness, when nodes were found on the fingers. These nodes increased in size during three or four weeks and then gradually grew smaller, so that at the end of six months they could scarcely be felt. During the height of the attack, then, no complications on the part of the lungs, or pleura, or of a rheumatic nature could be detected.

The symptoms were unmistakably those of endocarditis though they exhibited some peculiarities. Thus, the pain present in this case, which was located in the mitral, in contradistinction to the aortic, cardiac area, was unusually severe, and in connection with the high temperature indicated the extreme acuteness of the invasion and may perhaps be characteristic of a primary endocarditis. Certainly acute secondary endocarditis runs its course very frequently without pain. The fever ran a rather irregular course, reached its acme on the evening of the second day, remained continuously high during a week, gradually fell to normal during the next five or six days, and then continued slightly subnormal during the next five days. The pulse was rather unusually high for the temperature, even in a child, during the first three days and was irregular. The prostration, herpes labialis, and course of the temperature, pulse, and respiration were all such as might have occurred in a case of pneumonia.

The results of auscultation were quite interesting. During the first two days nothing abnormal could be detected, except a slight prolongation of the first sound at the apex. On the third day a murmur could be heard at the apex, but so confused that its exact nature could not be determined. On the fifth day this murmur was distinctly systolic and mitral regurgitation seemed to be present, but on the next day this systolic murmur was replaced by a presystolic murmur of stenosis, which continued to be the only one heard during the next few days, and on the eleventh day of the disease the diagnosis of mitral stenosis was confirmed by the existence of an indistinct presystolic thrill, which had each day been sought for and found to be absent. Some three weeks later all confusion had disappeared and there was evidence of a well marked mitral stenosis and insufficiency with secondary cardiac dilatation and hypertrophy and increased resistance in the pulmonary circulation,—a condition which continued practically unchanged throughout the following year, during which time the child remained in the asylum under observation.

The symptoms of this case were, then: prostration, fever (with its secondary nervousness, restlessness and delirium), irregular and rapid pulse and respiration, and severe pain in the neighborhood of the apex of the heart. The valvular lesion caused by the endocarditis gave rise to its characteristic murmurs and subsequently to an increased area of cardiac dulness and an accentuation of the pulmonic second sound.

But it is its etiology and in the sequence of its lesions that the chief interest of this case lies. The initial high temperature and all the other symptoms point to an acute infection of the body, doubtless of bacterial origin, and perhaps a late manifestation of some former disease. In regard to this latter possibility, although the child was under careful observation, no illness except that of typhoid fever had occurred during a number of years. Typhoid fever rarely leads to endocarditis even its active stages; so that there is no reasonable probability that it could be the cause, nearly three months after its subsidence, of an isolated, non-septic endocarditis associated with pain, high fever, and herpes labialis,—the last symptom especially indicating an infection from without the body.

In regard to the nature of any possible infection from without, the family history and the presence of nodules on the fingers subsequent to the attack indicate that the infection may perhaps have been of a rheumatic nature; while the well marked herpes labialis, the general prostration, and the moist rales in the left axilla indicate that it may have been of a pneumonic nature. As between these possibilities the weight of evidence rather favors the belief in the rheumatic origin of this case. But this question, interesting as it is, is of much less interest than the one as to whether the endocarditis was primary or secondary, and on this point, I think, the case gives no uncertain answer, for, whether the nature of the infection was pneumonic or rheumatic, it is clear that the germ did not produce its usual local lesions whether in the lungs or in the articulations and, perhaps in consequence, acted with unusual force on the endocardium and produced much more pronounced symptoms of endocarditis than are usually observed.

Such an occurrence is not at all improbable. It is now well known that typhoid bacilli occasionally pass through the intestinal walls without causing any of the characteristic lesions and produce local manifestations elsewhere and even general septicæmia. In an analogous manner, the germs of pneumonia might pass through the lungs in exceptional cases without producing any characteristic lesion and yet cause a lesion of a vulnerable endocardium in the left side of the heart.

In ordinary articular rheumatism the micro-organism, which is supposed to be its cause, after its entrance into the body, has a long route to traverse before it becomes localized, in consequence of slight traumatism or greater vulnerability, in some special joint or joints. It seems quite possible that this micro-organism might be arrested in its course through the body and become primarily localized upon a cardiac valve rendered vulnerable by an overstrain from work or from too boisterous exercise. It was the view of our fathers in medicine that rheumatism might in exceptional cases commence in the heart and later manifest itself in the joints. From this view many of the modern text-books of medicine have departed, at least in regard to the acute form, with scarcely adequate cause, it seems to me. In the case here reported careful examination failed to find any involvement of the articulations, there was no rusty sputum or other characteristic sign of a central pneumonia, and the transitory moist rales in the left axilla were not heard at the very outset of the disease and were more likely to be caused by the already disordered cardiac action than to have any causal connection with the latter.

Of course no clinical case can be absolutely conclusive, and an autopsy in this case, had the child died, might have revealed something quite unexpected and shown a primary local infection remote from the heart. As it is, however, from purely clinical considerations we are rather forced to the belief that the infection in case took place at the time of the illness, and that the germs entered the body from outside and were localized primarily in the endocardium, and that it was a case of primary simple acute endocarditis. And as a clinical case of disease in a child it is gladly offered in honor of him who has been for so many years our guide and our inspiration in clinical pediatrics.

ASSOCIATION OF THE ALUMNI OF THE ALBANY MEDICAL COLLEGE—TWENTY-SEVENTH ANNUAL MEETING.

The twenty-seventh annual meeting of the Association of the Alumni of the Albany Medical College was held in the Alumni Hall on Wednesday, May 2, 1900. The usual informal reception was held in the college library, where photographs were exhibited and greetings exchanged, between the hours of 9 and 10:30 A. M. Provision for the reunion of the decennial classes had been made by the assignment of the various rooms of the college for the separate classes, and before the general meeting the classes of '70, '75, '80 and '90 met for the reports of the class historians and for renewals of college acquaintance. The annual meeting was called to order by the President, Dr. James H. Mitchell ('81), of Cohoes, at half past ten o'clock.

The following members of the Association, with invited guests, students of the college and others interested were present: H. B. Maben, ('57); M. Felter, ('59); A. Vander Veer, ('62); J. O'Flaherty, ('64); T. D. Crothers, ('65); C. E. Witbeck, ('66); L. Hale, ('68); W. H. Murray, ('69); D. C. Case, W. Haiies, ('70); G. Conkling, G. L. Ullman, ('71); D. H. Cook, ('73); J. D. Featherstonhaugh, H. E. Mereness, ('74); J. W. Houser, C. C. Schuyler, E. A. Wood, ('75); M. J. Lewi, ('77); J. H. Cotter, E. D. Fuller, W. O. Stillman, ('78); E. A. Bartlett, ('79); E. C. Collins, D. F. Donoghue, C. B. Herrick, G. S. Munson, M. H. Strope, W. C. Wood, ('80); J. H. Mitchell, T. W. Nellis, ('81); F. A. Palmer, W. B. Sabin, W. W. Scofield, ('82); J. F. Reilly, T. F. C. Van Allen, ('83): T. C. Carroll, M. MacHarg, E. H. Rider, ('85); A. S. Capron, ('86); A. MacFarlane, C. H. Moore, H. V. Mynderse, ('87); J. Archibold, ('88); J. M. Mosher, ('89); E. V. Colbert, W. H. Happel, G. T. Moston, A. G. Root, E. S. Simpkins, ('90); W. S. Ackert, W. H. Conley, C. E. Davis, J. W. Wiltse, ('91); W. G. Lewi, C. F. Theisen, ('92); R. E. Doran, T. W. Jenkins, J. W. Russell, ('93); W. H. George, G. W. E. Goodell, W. S. Hale, J. R. McElroy, A. Sautter, ('94); W. J. Wansboro, ('95); F. T. Clark, J. C. Sharkey, ('96); I. Applebee, C. G. Cole, W. C. McCulloch, C. H. Richardson, C. J. Slocum, G. W. Timmers, ('97); D. J. Jenkins, C. W. Skelton, A. H. Traver. E. A. Vander Veer, ('98); J. M. Adey, A. E. Garland, P. H. Moak, ('99); F.

D. Bigarel, K. A. Campbell, G. P. Coopernail, J. L. Crofts, T. H. Cunningham, W. E. Curtin, L. K. Dugan, L. Emerick, J J. Gallup, R. Gilmore, H. H. Gormly, L. H. Humphrey, 2d, H. A. LaMoure, G. Lenz, H. H. Loussararian, C. G. Lyon, W. G. Mack, L. D. Masson, P. McPartlon, S. D. Miller, L. F. O'Neill, W. H. Petrie, W. W. Sanford, W. A. Stearns, E. A. Sweet, A. A. Wood, ('1900); S. B. Ward, (Hon.).

The President introduced Professor William Hailes, M. D., who delivered the following address of welcome to the alumni on behalf of the college faculty:

ADDRESS OF WELCOME

Fellow Alumni:

On behalf of the faculty I extend to you greeting and a cordial welcome to your *alma mater*. We are proud of our alumni, scattered far and wide over many states of our glorious Union. We thank you for the effort you have made—for the sacrifices you have endured—to be with us to-day. We are proud of our faculty, a harmonious, united, enthusiastic band of teachers, not only maintaining but raising the standard of medical education in a way which cannot but meet with your hearty approval and that of every man who loves his noble profession. It pains us to inform you of the illness of the founder and the most energetic member of our alumni, Dr. Willis G. Tucker, who has been quite ill and confined to his home by a severe attack of La Grippe with complications. We are happy, however, to say that he is, we hope, convalescent, but still exceedingly weak, and his progress toward complete recovery must necessarily be slow. His absence is particularly unfortunate and noticeable at this our annual gathering where he always has been of inestimable service.

Our beloved member, Dr. F. C. Curtis, also has been disabled in consequence of ill-health, and is at present at Aiken, S. C. In a recent letter from him he says he hopes to be in Albany in a few days. We rejoice in the fact that his life which at one time was despaired of, is, we feel, spared to us for continued usefulness.

We welcome you to our Bender Laboratory, now in the fulfillment of its beneficent mission in preparing our alumni for the better mastery of disease, as well as rendering them more efficient in the increasingly important department of preventive medicine. We welcome you to our new hospital, which by united and sustained effort, we have erected at a cost of $250,000, free and unincumbered by debt and now thoroughly equipped and officered to carry on its beneficent mission of turning misfortune into joy and sending light and happiness into homes previously enshrouded in gloom.

We have the advantage of a most excellent X-Ray outfit which is of frequent service in surgical procedure. We have also for our instruction, a fine electrical projection apparatus, by means of which the embryological development of organs and tissues can be studied, and sections from the various parts of the body thrown upon the screen with great brilliancy and in their natural colors. The study therefore of minute anatomy, both in health and in disease, becomes an exceedingly interesting and absorbing pursuit.

Occasionally, a ripple crosses the placid pool of our college life. Not long since, while speaking to the class in the darkened lecture-room, the boys—as boys will occasionally—became hilarious, and when one particularly beautiful specimen was upon a screen a rich, sonorous voice exclaimed from out the depths of the darkness—"Wonderful!" Then the boys tittered and laughed at the interruption. A little later, a second section appeared on the screen, when a second interruption occurred and the voice exclaimed:—"Marvelous!" Again, a burst of laughter greeted the exclamation. A little later a third interruption took place, when the voice said:—"Truly beautiful!" My patience, by this time, was exhausted, and observing silence for a moment, I remarked: "Nobody in our audience, this afternoon, imagines for a moment, that that much abused Hebrew prophet, Balaam, is in our midst, but we are all quite certain that Balaam's Ass must have strode in here to-day, for he has spoken thrice." It was difficult to hold the boys in check, and pandemonium reigned for a moment. The perpetrator of the offense was unknown to me, but retributively he lost his real name and ever after was known among his fellows as "Balaam's Ass."

Again I welcome you to our brotherhood and bespeak for you the exquisite pleasure that comes from social reunion, the renewal of old associations, the hand-clasp, the sound of familiar voices, the comparison of experiences, the turning back of the once familiar but almost forgotten pages in memory's book, the talking over of old times with fellow-students now absorbed in life's stern realities, but each and all with a warm spot in his heart for his beloved *alma mater*.

On motion of Dr. Walter H. Conley, the thanks of the Association were tendered Dr. Hailes for his interesting address.

On motion of Dr. D. H. Cook, the reading of the minutes of the last annual meeting was dispensed with, and the minutes as printed were adopted.

The Recording Secretary presented the following communication:

May 2, 1900.

To J. M. Mosher, M. D.,
Recording Secretary, A. A., A. M. C.

MY DEAR DOCTOR.—I desire to resign from the office of treasurer, after having served for six years. Respectfully,

[Signed] T. F. C. VAN ALLEN.

Dr. MacFarlane moved the acceptance of Dr. Van Allen's resignation and a vote of thanks for the valuable and extended service he had rendered the Association. Carried.

Dr. G. L. Ullman moved that the President appoint a committee of five to nominate officers for the ensuing year. Carried. The President appointed as such committee: Drs. G. L. Ullman, ('71); D. C. Case, ('70); J. M. Adey, ('99); G. W. Timmers, ('97); and R. E. Doran, ('93). The committee retired.

The Recording Secretary presented the

REPORT OF THE EXECUTIVE COMMITTEE AND RECORDING SECRETARY.

Three meetings of the Executive Committee have been held during the year. At the first meeting, held May 4, 1899, the recording secretary presented the records of the last annual meeting of the Association, including an account of the commencement exercises, and it was ordered that this be printed in the ALBANY MEDICAL ANNALS, and that fifteen hundred and fifty reprints be purchased and distributed to members of the Association. The recording secretary also presented a statement of the alumni dinner account, from which it appeared that the receipts from the sale of 130 tickets were $195.00, and the disbursements were $289.50, leaving a deficit of $94.50, which had been paid by the College faculty. The recording secretary stated that at the last annual meeting of the Association, Dr. C. Harper Richardson, a member of the committee, had been elected to the same office. The election was declared void by the president, and a vacancy on the executive committee was filled by the election of Dr. John V. Hennessy. The historian submitted a report of the services of the alumni in the Spanish-American War, which was received, and ordered printed in the Transactions of the Association. At a meeting held February 15, 1900, the distribution of the proceedings of the last annual meeting was announced. A copy had been sent to each alumnus whose address was known, together with a college catalogue and treasurer's blank. The following resolution was adopted:

"*Whereas*, there have been organized, in 1896 and 1899, respectively, the Albany Medical College Alumni Association of New York City and the Albany Medical College Alumni Association of New England:

"*Resolved*, that the secretaries of these associations be requested to forward to the corresponding secretary, a synopsis of the proceedings of their meetings, to be presented at the annual meeting of this Association; and that these reports, together with the lists of officers, be incorporated in the published annual proceedings of the general alumni association."

The usual arrangements for alumni day were discussed, and the president appointed the following committees: On Alumni Dinner, Drs. Tucker, Nellis and Root; On Toasts and Speakers, Drs. VanderVeer, Bendell and Cook; Reception Committee, Drs. Richardson, Rider, MacHarg, Hennessy, Babcock, Sabin and Mereness. At the meeting held March 23, 1900, the program of alumni day was considered, and a resolution was adopted which provided for a reception at noon, with luncheon, at the new

Albany Hospital. On motion the faculty of the college were invited to participate in the exercises of alumni day and to appoint some representative to deliver an address of welcome to the alumni at the opening of the annual meeting. The corresponding secretary was authorized to have the usual notices printed announcing the annual meeting and to issue the same.

On motion of Dr. E. H. Rider, the report was adopted and ordered entered upon the minutes.

The Treasurer, Dr. T. F. C. Van Allen, presented his report for the year, as follows:

TREASURER'S REPORT.

Cr.

Balance on hand April 19th, 1899	$154 68
Received as dues April 19th, 1899	120 00
Dues received between April 19th, 1899 and May 2, 1900	14 00
Interest on money in bank to January 1st, 1900	6 43
	$295 11

Dr.

Various bills paid from April 19th, 1899, to May 2, 1900, for which vouchers are presented	158 32
Balance	$136 79

THE COLLEGE BUILDING FUND.

At last report this fund amounted to $74.46. Interest to January 1, 1900, $3.00, makes a total of $77.46.

[Signed.] T. F. C. VAN ALLEN,
Treasurer.

On motion, the report of the Treasurer was referred to a committee consisting of Drs. W. W. Scofield, C. G. Cole and F. T. Clarke, who examined the same, compared the disbursements with the accompanying vouchers, and subsequently reported it correct. On motion of Dr. F. A. Palmer, the report of the committee was received and the committee discharged, and the report of the Treasurer accepted and ordered placed on file.

The President's address being the next order of business, ex-President Maben was called to the chair, and President Mitchell delivered the following address:

PRESIDENT MITCHELL'S ADDRESS.

Fellow Alumni:

The objects of this association are comprehensively stated in the constitution adopted in 1874 thus: "To promote the interests of the Albany Medical College and to cultivate social intercourse among its members."

The various questions of means and methods of accomplishing these ends and the many phases of interest and issue involved have been ably presented in the addresses of successive presidents from year to year at the recurring annual meetings.

It had occurred to me that it might be profitable for us to reflect for a little while to-day along the lines that are suggested in a general way by a hasty glance at the two clauses which combined constitute the statement of the ends of our being an organization. The college contemplates manhood, and manhood contemplates society.

We may assume that we best promote the interests of our *alma mater* when we cherish and display a true and worthy manhood and we associate ourselves together for mutual fellowship stimulus and co-operation to this end.

Here I am tempted to announce as the general subject of our reflections "The Doctor as a Man and a Citizen," but a practicing physician is somewhat amateurish in public address, and perhaps it is better to leave myself "fancy free to rove" without any superposition of definitely prescribed lines of thought or literary forms of expression. The college was made for man, not man for the college. It is in place here to assert that there is scarcely room for two opinions on the question of a higher standard of medical education. In view of the strides which characterize the conquering advance of social interest and forces in all directions, the perplexing and intricate problems which are yet to be solved, and the increasing facilities for study, it is natural to demand that the course of education for the physician should be extended. Society has a right to require that the medical alumnus should be a complete man with trained intellect, quick perception and good judgment as well as a sympathetic heart and a refined taste, and that he should have that well guarded faith in himself and in his art which will make him a competent and worthy master of the situation. No other agency is better adapted to secure compliance with this reasonable demand than the alumni association. On account of considerations that need not be mentioned here, the great majority of its members are interested on the side that is so plainly right.

No other agency can do so much to secure liberal and adequate endowment of the college, and thus to obviate one of the most formidable difficulties in the way of the reform, viz: dependence on the patronage of numbers—quantity rather than quality. The alumni association by its prestige and influence in the college it represents and by enlisting the sympathy and co-operation of other associations in a similar work in their respective institutions may eventually secure that uniformity of provision and practice in high standard requirements for entrance and graduation without which no effective results in rectification of the evils can be accomplished.

The association can also do much to awaken public interest and demand for a high standard of qualification for the great and sacred truths that are committed to the keeping of the medical profession, and to secure the enactment and execution of such legislation as shall rigidly enforce these just requirements upon all alike.

The best exponent and advertisement of the college is the man who is its alumnus, the true and legitimate fruit of the college by which it shall be known, is the manhood which it yields to the world. Of course the medical man, the doctor, the physician, the surgeon, or whatever other designation may be fitting, indicates the special sphere of the manhood's development and demonstration.

And true manhood in the medical profession, as I have intimated, imperatively demands the most enthusiastic and indefatigable diligence in studying and applying the principles and methods of medical science, interest in and mastery of its past history of experiment and achievement, its present status of attainment and purpose, and its future outlook of prospect and promise. But I have in mind something back of all this, the personality, the individuality, the character of the man, the motives, the high conception of life's purpose and aspirations toward a worthy end, without which the most exalted professional title may mean only drudgery and failure, and with which the humblest place of menial employment will in the end be found to have meant dignity and success.

No man in any sphere of life can have that clear and definite apprehension of a high purpose, that inspiration quick and powerful in its pursuit and that deep and abiding satisfaction in its achievement, which is essential to a worthy manhood, if his conception of his life's work be selfish — that the world owes him a debt and his mission is simply to collect it.

If such there breathe, go mark him well
For him no minstrel raptures swell,
Though high his titles, proud his name,
Boundless his wealth as wish could claim,
Despite those titles, power and pelf,
The wretch concentrated all in self,
Living, shall forfeit all renown
And doubly, dying shall go down
To the vile dust from which he sprung,
Unwept, unhonored and unsung.

We are social beings; no man liveth to himself alone. The sublimest life that ever was lived in this world was that of a "Great Physician," a self-sacrificing work in alleviation of human ills which contemplated extension to the uttermost parts of the earth, and continuance to the remotest ages of futurity, or until its triumphant issue in millennial glory and blessing. A real enthusiasm and enjoyment and success in any sphere of life's interest and activity, is possible only when there is recognition and appreciation of the principle that the mission of true manhood is "not to be ministered unto but to minister and to give its life a ransom for many," nothing short of this sentiment of boundless social philanthropy can adequately inspire, direct and energize, for the demonstration of a sublime character and the achievement of a glorious destiny.

E. P. Whipple wrote divinely of "Heroes' Character." He depicted the hero's spirit as its creative glow successively animates the soldier, the patriot, the reformer and the saint, confessing meanwhile his consciousness of inadequacy to "sound its depth of sentiment or measure its height of character or tell its fullness of joy." He showed that this spirit was "a spirit of cheer and love and beauty and power, giving the human soul its finest and amplest expression," and that while "its glorious inspiration" illuminates history with the splendors of romance, it is the prolific source in humble life of heroes' deeds which no history records, no poetry celebrates and of which renown is silent.

All that is the equivalent of the familiar assumption that special opportunities for achieving the heroic and the romantic are peculiarly open to the soldier or the lawyer or the gospel minister. But why may not the doctor be admitted to a place among those who may aspire to a high seat with "this glorious company of immortals." Certainly no other sphere of human service is more congenial to the inspiring and energizing sentiment of limitless social philanthropy than that of the medical profession. It is peculiarly a ministry to the poor and suffering, a profession which requires more self abnegation, labor and attention than any other; not even the gospel minister will be more severely censured or more seriously condemned if he allows a fellow man to die without extending professional skill and attention, and that regardless of hardship or prospect of pecuniary compensation. It is a ministry of unselfishness, no other man in so literal a sense gives his life a ransom for many.

To the medical man is intrusted the most sacred interests and confidences of the home, on his skill often depends the lives of those who are the sustaining and adorning pillars of society, in the family, in the commercial world, in the church and in the state. The medical calling stands related to problems of profound and far reaching import which occupy the thought of the world's greatest thinkers and economists; and thus an exalted dignity of responsibility and opportunity invests it with an indefinable majesty, and gives it a value which money cannot represent. What pecuniary consideration can recompense men who have consecrated their lives to science? Men like the celebrated Ambrose Paré live long after their day in our minds when their royal patrons are forgotten; an Hippocrates who in the Golden Age of Pericles was the peer of the contemporary philosopher, poet and tragedian, who to his profound knowledge of medicine and to his clear apprehension of the "res medicatrix" of nature added his beautiful conception of the duties and status of a physician; a Harvey, whose enemies could only say: "I would rather err with Galen than be a circulator with Harvey," but whose discovery served to put medicine upon a physiological basis; a Morgagni, whose taper shining feebly through the darkened window when he dissected, has not yet been extinguished; a Jenner, whose discovery of vaccine not only had immediate importance but which drew attention to the investigation of infectious diseases; a Laennec, the inventor of the most important method of physical research of any age; a Morton, who with a wave of his wand, like some mystical Hermes, has changed the wild cries and fury of the sufferer to a lethe of forgetfulness in which he lies down to pleasant dreams; a Pasteur, whose investigations in the process of fermentation have opened for us a world as large and wonderful as ever Colon gave to Castile! For these and such as these what material rewards are fitting or can satisfy? Yet their names are written high upon the portals of the temples of Æsculapius, and while men seek health and fear death the followers of the art and science of medicine will pause ere they reverently enter. These men have placed common humanity of all nations and ages under a perpetual tribute of gratitude for the benefits and blessings they have conferred.

The statesman, the reformer and the religionist find inexhaustible inspiration to heroic aspiration and endeavor in looking forward to the time when the evils they combat shall be completely subjugated. But who may look to a surer, brighter era of triumph or at least to a larger part in the glory of bringing about the ultimate enfranchisement of humanity from its defaults and pains than the physician? Where is there a more thrilling vision of apocalyptic promise than that which the annals of modern medical science reveals? The marvelous story of the past and the actual experience of the present warrant the assured anticipations of the future, for a continued process of decline and even extinction of disease. The study of the causes and conditions of disease proves that they are all in varying manner and degree preventable and gratuitous, that with perhaps a few exceptions they are generated by conditions that need not exist and are amenable to control and suppression.

The plague or black death and other medieval epidemics cannot enter the realm of modern medicine, and a large number of diseases which were the heritage of a few generations ago, such as agues, remittent, relapsing and typhus fevers, leprosy and cholera are practically vanquished and in their epidemic form excluded by effective sanitation.

Diseases which account for more than one-fourth of our total mortality, scarlet fever, measles, chicken pox, diphtheria, typhus and typhoid fevers, infections, and diarrhœal disorders, and others are now included under the positive technical designation "Preventable Diseases." It is demonstrated that "Constitutional Diseases" as rheumatism, gout, tuberculosis, scrofula, etc., even when involving hereditary taint, may be combated or fostered in the individual by his manner of living and in the course of a few generations at least, may be bred out of the system altogether by hygienic culture, inhabitation and discreet marriage selection. Food diseases vanish in supplying the lack in dietary and hygienic conditions; so of "surgical diseases:" erysipelas, tetanus, purulent inflammation and others are routed by the Listerian teaching.

In general it may be said that diseases of all kinds are declining both in prevalence and virulence and that the general standard of health in the nation is being raised. Statistics show that in each successive decade of the last fifty years there has been a steady and progressive decrease in the rate of mortality upon that of the preceding ten years.

Sanitarians confidently assert that if they might enforce the laws and conditions which are known and practically feasible they would abolish half the disease and death of our age and bring down the mean annual death rate of 20 or 22 per 1000 to 10 or 11 per 1000 as has indeed been done in certain localities of Christendom. It is true that nervous diseases, and certain local diseases which may be traced to them, as insanity, diabetes and functional heart disease, are alleged to show a tendency to increasing prevalence in these latter days. But the undoubted explanation that this is due to the increased nervous strain on account of the interior stress of the struggle for existence, the keener competition and the growing complexity of modern life only adds cumulative confirmation to the assumption that these affections are also preventable. But why dwell on these facts so well known to most of my hearers? I recall them simply that I may remind our young brethren who to-day step into the medical arena, that it is a sphere of strenuous life upon which they enter.

Gentlemen of the Graduating Class of 1900: Wonderful as has been the advances in the healing art, it is evident that the conquering march has only begun, and glorious opportunities are before the aspiring and the consecrated in the vistas of the alluring future. The discoveries have not all been made, and each one of you may be enthused to contribute his share for the alleviation of human suffering and hastening the authoritatively predicted Saturnian of medical triumph when "There shall be no more thence an infant of days nor an old man that hath not filled out his days, for the child shall die an hundred years old."

Your graduation to-day does not signify that your studies are ended and your responsibilities demitted. Your diploma indeed attests your diligence and faithfulness in the past, but its special significance and value lies in the fact that it is a certificate of character and competence introducing and commending you to a higher course of study, a more practical field of responsibility, and a wider sphere of opportunity in the future. It only marks your promotion to another grade in the immortal life-school of many departments. May you so have apprehended and fulfilled the high standard requirements of that curriculum that when having finished your course you shall at last appear before the "Great Physician" on the final graduation day he may confer on each one of you the diploma which he has especially prepared for the medical man and whereon he has written:

"Come ye blessed, * * * for I was sick and ye visited me, * * * inasmuch as ye did it unto one of the least of these."

The members of the Class of 1900 were present in a body, and rose as the President addressed them at the conclusion of his address, and received them into membership in the Association.

Dr. F. T. Clarke moved a vote of thanks to the President for his interesting address, a copy of which he was requested to furnish for publication. Ex-President Maben put the motion to a vote, and declared it unanimously carried.

President Mitchell then resumed the chair.

The Historian of the Association, Dr. Pearse, was absent in Europe, and had forwarded his annual report, which was presented by Dr. MacFarlane.

REPORT OF HISTORIAN, DR. HARRY SEYMOUR PEARSE.

Mr. President and Fellow Members of the Association:

It is with keen pleasure and satisfaction that we note the development of the spirit of friendship and the desire of amicable intercourse among the graduates of our "Alma Mater." The class ties seem to clinch more firmly than in former years, the bonds of devotion to our College grow stronger and members are now forming separate societies, anxious to annually renew old associations and keep alive the good fellowship so happily created in their college days.

In addition to the mother Association, there are now two small and promising children. The older and larger, "The Albany Medical College Alumni Association of Greater New York," was organized in December, 1895; has had five annual meetings and banquets and a short time previous to its last meeting in January, 1900 had eighty-two members. The younger, "The New England Branch of the Alumni Association of the Albany Medical College," was organized in May, 1899 and held its first annual meeting at Hartford, Conn., in September of the same year, The number of alumni who go out into the field which it covers should insure a steady growth and make it a strong adjunct of the Association proper.

At our last meeting in April, 1899, the records of twelve of the members who had served in the Spanish-American war had been obtained and were published in June, '99, number of the ALBANY MEDICAL ANNALS. At the present time the Historian has a list of twenty who served and the records of sixteen. It will require considerable time to secure a full list with complete records. The records of the following have been obtained during the year: Dr. John V. R. Hoff, U. S. A., '71; Dr. James P. Kimball, U. S. A., '64; Dr. Garrett Vander Veer Johnson, '96 and Dr. Adolph R. V. Fenwick, '99.

It is my sad duty to present the history of the class of '40. This class has passed out of living history and it is the first and only class of the sixty-one which have gone out to be without a known living representative. There were seventeen members graduated; of this number ten are known to have died, of the remaining seven there are no records. The last known death was that of Dr. David S. Beardsley of Pultneyville, N. Y. in March, '97 at the ripe old age of 87, Thus, with the dying century, there is effaced a mile-stone from the history of our cherished Association The history of the class of '50 is presented by Dr. Bradley S. McCabe, of Greenville, N, Y.; of '60 by Dr. DeWitt C. Wade, of Holly, Michigan; of '70 by Dr. William Hailes, of Albany, N. Y.; of '80 by Dr. Clinton B. Herrick, of Troy, N. Y.; of '90 by Dr. E. V. Colbert, of Albany, N. Y.

[Signed.] HARRY S. PEARSE,
Historian, A. A., A. M. C.

The Recording Secretary stated that biographical notices of deceased members of the Association had been published in the ALBANY MEDICAL ANNALS during the year, and requested members of the Association to forward biographical sketches of deceased alumni. He then read the following:

NECROLOGY.

Dr. Willard G. Davis ('41), at Dunnsville, N. Y., May 16, 1899, aet. —.

Dr. Henry S. Case ('53), at Albany, N. Y., June 14, 1899, aet. —.

Dr. Robert Loughran ('57), at Kingston, N. Y., April 11, 1899, aet. 64.

Dr. John E. Pritchard ('57), at Baltimore, Md., March 1, 1899, aet. —.

Dr, Martin Luther Mead ('59), at Highlandlake, Col., September 5, 1899, aet. 65.

Dr. Ira D. Brown ('65), at Weedsport, N. Y., June 23, 1899, aet. 68.

Dr. Henry C. Van Zandt (65) at Schenectady, N. Y., February —, 1900, aet. —.

Dr. Francis M. Hamlin ('68), at Willard, N. Y., March 11, 1900, aet. —.

Dr. Irving C. Schureman ('69), at Tom's River, N. J,, August 6, 1899, aet. 59.

Dr. Charles E. Jones ('73), at Albany, N. Y., December, 1899, aet. 50.

Dr. Robert A. Linendoll ('79), at Fort Edward, N. Y., July 9, 1899, aet. 53.

Dr. James E. Brennan ('89), at Waterford, N. Y., March 23, 1900, aet. —.

Dr. Charles DeLaMontanye ('90), at Port Ewan, N. Y., July 23, 1899, aet. 33.

Dr. Daniel D. Donovan ('95), at Troy, N. Y., October 27, 1899, aet. 23.

Information has also been received of the deaths of Dr. George W. Chittenden ('46), which occurred May 28, 1899, and of Dr. Robert F. Carr ('55), which occurred at Argenta, Ill., March 13, 1893.

The committee appointed to nominate officers presented the following report, which was read by its Secretary, Dr. W. W. Scofield:

For President,

DR. THOMAS D. CROTHERS ('65), Hartford, Conn.

For Vice-Presidents,

DR. CHARLES E. WITBECK ('66), Cohoes, N. Y.
DR. MAHLON FELTER ('59), Troy, N. Y.
DR. GEORGE CONKLING ('71), Durham, N. Y.
DR. WILLIAM C. WOOD ('80), Gloversville, N. Y.
DR. WILFRED S. HALE ('94), Albany, N. Y.

For Recording Secretary,

DR. J. MONTGOMERY MOSHER ('89), Albany, N. Y.

For Corresponding Secretary,

DR. ANDREW MACFARLANE ('87), Albany, N. Y.

For Treasurer,

DR. WILLIAM G. LEWI ('92), Albany, N. Y.

For Historian,

DR. HARRY S. PEARSE ('92), Albany, N. Y.

For Members of the Executive Committee (term three years),

DR. JOHN C. BROWN ('92), Albany, N. Y.
DR. C. HARPER RICHARDSON ('97), Albany, N. Y.
DR. CHARLES H. MOORE ('87), Albany, N. Y.
DR. WILLIAM H. GEORGE ('94), Albany, N. Y.

On motion of Dr. M. J. Lewi, the report was accepted and adopted, and the Recording Secretary was instructed to cast a ballot in behalf of the Association for the gentlemen named therein. The ballot was cast, and those named in the report were declared by the President duly elected officers of the Association for their respective terms.

The Corresponding Secretary, Dr. A. MacFarlane, read the following letter:

HARTFORD, CONN., *April* 27, 1900.

MY DEAR DR. MITCHELL:—I am directed to inform you officially that at the annual meeting of the New England Alumni Association of the Albany Medical College, Dr. John O'Flaherty, Treasurer of the Association and myself as President, were appointed delegates to the alumni meeting next week. We shall take great pleasure in being present, and not only renewing our old acquaintance but making many new ones, not the least of which will be to meet you. Hoping this occasion may be both pleasant and profitable to all, I am,

Very truly yours,
T. D. CROTHERS.

Dr. Crothers, President-elect, was introduced to the Association and thanked the members present for the honor conferred upon him, and assured them of his desire to do all in his power to promote the prosperity of the Association.

The Recording Secretary read the following notice:

A meeting of the Association of Resident Physicians of the Albany Hospital will be held in the Chemical Lecture Room, immediately after adjournment of this meeting. All ex-house physicians are requested to attend.

C. B. HERRICK,
Vice-President.

The Recording Secretary announced that a reception and lunch would be held at the Albany Hospital immediately after adjournment, when opportunity would be given for inspection of the new institution. Carriages had been provided and awaited the members of the Association and guests. The order of exercises for the afternoon and evening was announced, and, no other business appearing, the meeting adjourned.

COMMENCEMENT EXERCISES.

The sixty-ninth commencement exercises of the Albany Medical College were held at Odd Fellows' Hall, on Wednesday afternoon, May 2, 1900, at three o'clock, in the presence of a large audience. Rev. Dr. A. V. V. Raymond, President of Union University, presided, and upon the stage were seated the members of the Faculty, officers of the Alumni Association and prominent citizens.

The following was the

ORDER OF EXERCISES.

Overture—"Wanderer's Hope" - - - - - - - - - - - *von Suppe*

Prayer—REV. WALLACE BUTTRICK

Music—SELECTION: "The Singing Girl" - - - - - - - - *Herbert*

Essay—EARNEST ALBERT SWEET

Music—INTERMEZZO: "Narcissus" - - - - - - - - - - - - *Nevin*

CONFERRING DEGREES

BY ANDREW VAN VRANKEN RAYMOND, D. D., LL. D.
President of Union University

Music—SERENADE: "In Venice" - - - - - - - - - - - - *Rubens*

Address—Prof. JAMES H. CANFIELD, M.D., LL. D.
Librarian of Columbia University

Music—GAVOTTE: "Sunshine and Shadow" - - - - - - - *Haig*

Valedictory—GEORGE LENZ

Music—SONG: "My Lady Lu" - - - - - - - - - - - - - *Brill*

REPORT ON PRIZES AND APPOINTMENTS

BENEDICTION

Music—MARCH: "Koonville Koonlets" - - - - - - - - - - *Weidt*

The Graduating Class was as follows:

Frank Duestin Bigarel	Port Leyden, N. Y.
Kleber Alexander Campbell, B. S.	West Rutland, Vt.
George Peter Coopernail,	Upper Red Hook, N. Y.
John Livingston Crofts	Little Falls, N. Y.
Thomas Hart Cunningham	Sandy Hill, N. Y.
William Edward Curtin	Amsterdam, N. Y.

Lawrence Kilpatrick Dugan	Schoharie, N. Y.
Luther Emerick	West Camp, N. Y.
John Jackson Gallup	Albany, N. Y.
Reid Gilmore, A. B.	Salem, N. Y.
Harry Hemming Gormly	Troy, N. Y.
Lester Hayden Humphrey, 2nd	Warsaw, N. Y.
Howard Alexander La Moure	Albany, N. Y.
George Lenz	Gloversville, N. Y.
Hemayak Hovhanness Loussararian, A. B.	Aintab, Turkey
Charles Guy Lyon	Harpersville, N. Y.
Will Gansevoort Mack	Wolcott, N. Y.
Louis David Masson	Cohoes, N. Y.
Peter McPartlon	Schenectady, N. Y.
Samuel David Miller, B. D.	North Easton, N. Y.
Louis Francis O'Neill, Ph. B.	Auburn, N. Y.
William Henry Petrie	Little Falls, N. Y.
William Wells Sanford	Penn Yan, N. Y.
Waldron Allen Stearns	South Berlin, N. Y.
Ernest Albert Sweet	Great Barrington, Mass.
Arthur Anderson Will	Moriah, N. Y.

Dr. Ward presented the prizes. He read a report on the Vander Poel prize, endowed by Mrs. Gertrude W. Vander Poel, in memory of her husband, the late S. Oakley Vander Poel, M. D., for many years a professor in the college, stating that this prize, consisting of a clinical microscope and accessories, offered to the senior student passing the best bedside examination in general medicine, had been awarded to Dr. Thomas H. Cunningham, and that at the competitive examination for hospital positions, the following appointments had been made: Albany Hospital, Drs. Ernest A. Sweet, Luther J. Emerick, Thomas H. Cunningham and Arthur A. Will; St. Peter's Hospital, Drs. George P. Coopernail and Waldron A. Stearns; Ellis Hospital, Schenectady, Dr. Peter McPartlon; Cohoes City Hospital, Dr. Reid Gilmore.

The prize offered by Drs. Vander Veer and MacDonald for the best report of the surgical clinics was awarded to Dr. Reid Gilmore, and that offered by Drs. Hailes and Morrow for the second best report was awarded to Dr. William E. Curtin.

The prize consisting of an ophthalmoscope, offered by Dr. Merrill for the best report of the eye and ear clinics, was awarded to Dr. George P. Coopernail.

The Townsend Physiological prize endowed by the late Professor Franklin Townsend, Jr., M. D , was awarded to Mr. John

C. Merchant, for passing the best examination in physiology at the end of the first year of study.

Dr. Boyd's prize to the student passing the best final examination in obstetrics was awarded to Dr. Thomas H. Cunningham.

The prize consisting of a case of surgical instruments, offered to the senior student passing the best final examination, by Dr. T. W. Nellis, was awarded to Dr. Thomas H. Cunningham.

The prize offered by Dr. H. R. Powell to the second-year student passing the best final examination, consisting of a general operating case, was awarded to Mr. John H. Gutmann.

A prize consisting of Gross' complete pocket case of instruments, offered by A. B. Huested & Co. to the first-year student passing the best final examination, was awarded to Mr. Frank Keator.

Dr. Bigelow's prize for the best dry preparation of the nose and nasopharynx was awarded to Mr. Arthur F. Holding, Jr.

Dr. Blumer's prize, consisting of a microscope and accessories, to the second-year student presenting the best record for laboratory work in pathological anatomy, was awarded to Mr. John H. Gutmann.

Dr. Stillman's prizes to the student passing the best final examination on the history of medicine, instrument and literature, Mr. E. N. Reed and Mr. J. P .Talmadge, respectively.

THE ALUMNI DINNER.

The twenty-seventh annual dinner of the Alumni Association was held at the "Ten Eyck" on Wednesday evening, May 2d, 1900, at half past eight o'clock. About one hundred and fifty were present, including members of the Association, the guests and members of the Graduating Class.

After the tables had been cleared and cigars passed, the following toasts were responded to, Dr. Albert Vander Veer acting as toastmaster:

1. "The President Elect," Dr. Thomas D. Crothers.
2. "Our Ex-Presidents," Dr. James H. Mitchell.
3. "The Law Department of Union University," Dean J. Newton Fiero.
4. "The City of Albany," Hon. Arthur L. Andrews.
5. "The Clergy," Rev. William Prall, Ph. D.
6. "The Benefits of High School Education," Dr. Herman Bendell.

7. "The Judiciary," Justice Alden Chester.
8. "The State Board of Medical Examiners," Dr. Maurice J. Lewi.
9. "The Board of Trustees," Hon. Amasa J. Parker.
10. "Medical Legislation," Dr. Arthur G. Root.
11. "The Bender Laboratory," Dr. George Blumer.

In closing, Dr. Vander Veer announced that an alumnus of the college, Dr. C. C. Schuyler, of Plattsburgh, N. Y., had provided for an annual award of one hundred dollars for the best essay by a graduate of the college, upon a subject to be assigned.

Correspondence

LONDON LETTER.

LONDON, *May* 5, 1900.

TO THE ANNALS:

The pleasures of a stay in London, whether it be long or short, depend entirely upon individual tastes and temperament. If one is interested in all that is old and little that is new and has a tendency to move slowly and deliberately he can be contented and happy; on the other hand, if one is American and wishes things in true American style and expects to find the modern comforts and conveniences of his average home city, he will be miserable and constantly find things to irritate him. The fascinations of Westminster and the Royal Tombs, National Gallery, St. Paul's Cathedral and the Tower will charm the most complacent and restless mind alike, and the student of English history will, at every turn, find land-marks of a most substantial nature to shape the pictures in his imagination and clinch in his memory the chief events of a great nation's career. He can dine in the banquet room of Crosby Hall where Richard III lived when Duke of Gloucester, admire the dignity of its architecture and enjoy his dinner the more perhaps when told that it was cooked in the original grill. Or he may eat and drink at the same table and sit in the same chair in the "Cheshyre Cheese" in old Fleet street, the place that the immortal Johnson loved so well. Or he may look upon the Old Curiosity Shop of Charles Dickens with varying emotions. The student of class life will find an immense field for observation, study and reflection. In no other city in the world will he find greater squalor, or seemingly greater content in misery and poverty. He wonders at the freedom and publicity of the social evil and drinking and in noting the widespread influence of the one and the prevalence of the other in every class, he will be forced to predict a gradual moral, mental and physical degeneration of the people of the nation. The truth of such a prediction only the future and perhaps remote generation can decide.

The characteristics of the general history of London necessarily enter into and influence the medical life. The buildings which mark the mile-stones of the nation's progress in the science of medicine have been preserved with fidelity, love and pride and these same instincts, added to by an almost boundless generosity have, for centuries, maintained hospitals for the care of the indigent sick and will continue to maintain them in all probability for centuries to come. The government gives no assistance whatever and cannot be looked to for any. I think that the prevailing system in America is much better, where every municipal government does its share in the care and maintenance of the sick poor and there is no country where they are better cared for.

The hospital which has attracted me especially is Saint Bartholomew, or "Old Bart" as it is affectionately called—a group of massive stone buildings surrounding a central court, impressive in their dignity and solidity, harsh and cold perhaps but loved by the historian, scientist and humanitarian alike; for the stones in the walls have witnessed many of the advancing strides of medicine through its modern history and harboured some of its greatest teachers. It was founded by Rahere in 1123, soon after made a parish and still has its chapel, *Saint Bartholomew, the Less.* Harvey was elected physician to the hospital in 1609, holding the position for thirty-four years. In the same wards over a century later John Hunter pursued his studies and Abernethy instituted his course of lectures. The medical school in connection with the hospital dates from 1662 and is one of the oldest in the world. The wards of the hospital are still heated by old fireplaces and the nearest approach to the modern hospital is seen in one of the operating rooms, which has a mosaic floor, alabaster walls and ceiling and exposed plumbing. The paintings in the grand staircase, executed gratuitously by Hogarth are alone worth a visit to the hospital. There are four, all masterpieces: "The Good Samaritan," The Pool of Bethesda," "Rahere as founder of the hospital" and "A sick man borne by monks." For this labor of love Hogarth was made a governor for life.

Quite as famous but less interesting is Guy's Hospital, founded in 1724 by Thomas Guy. It covers an area of six acres and the severity of its buildings is tempered by the many green and shaded spots in the grounds, making it withal, one of the pleasantest spots in London. In wandering through its wards and grounds, I was strongly reminded of the Pennsylvania Hospital in Philadelphia and Bellevue Hospital, New York. The wards are now gradually being altered to conform to modern ideas; the floors are mosaic or teak-wood, the walls tile or glazed cement and the corners and angles rounded. The operating rooms have also been altered and are essentially up to date with the important exception that hand faucets are still used. It can be said however that Guy's is more progressive than any of the other old hospitals of London, and some of the more modern ones, Saint Thomas for instance, which has been built but little over thirty years. On the other hand Saint Thomas excels all the other hospitals in situation and architectural beauty. Built on the pavilion plan, its seven massive buildings and the medical college overlook the Thames, with the Houses of Parliament on the opposite embankment. The buildings are united by arcades in front and separated from the river by two broad esplanads. Its wards are spacious and lofty and it is refreshing to see the expansive halls and open grounds after the cramped conditions which are everywhere encountered in London.

The amount of work accomplished by these three institutions is enormous. They each have about 600 beds; Saint Bartholomew treats about 145,000 out-patients annually; Saint Thomas 80,000 and Guy's, 76,000. Many hospitals have recently appointed, in connection with their out-patient departments, what is known as an "inquiry officer," whose duty is to prevent, as far as possible, any abuse of charity by persons who are able to pay a surgeon. There is not nearly as much "dispensary abuse" here as in our American cities. Whether it is due to this inquiry system I am unable to say, but judging from the report of Guy's hospital for 1898, that alone could not account for it. During that year the claims of fifty-four persons were rejected and 76,211 patients treated. A far greater percentage than that is rejected annually, in a peremptory manner, in nearly every American clinic and leads one to wonder what percentage of rejections an inquiry system would produce and incidentally, its effect upon the finances of our institutions and physicians.

The ambulance system in vogue in London has surprised and puzzled us greatly. In front of some hospitals, not all by any means, may be seen a vehicle which is really a stretcher mounted on two small wheels. This is called a "hand ambulance" and so far as I can learn is the only kind in use. In case of an accident, a policeman or anyone who happens to be about, obtains a stretcher and pushes the patient to the nearest hospital. No case, whether it be a serious accident, a poisoning or drowning receives any treatment until it reaches a hospital. The interne here sees and knows nothing of ambulance service and cannot see the necessity of the systems in America, but the necessity is shown and even the smallest city has its ambulance and physician to go out with it.

The Royal London Ophthalmic Hospital, widely known as "Moorfield's Eye Hospital" is the most recently built hospital in London and has the advantage of having all the equipments that modern ideas can suggest, and it is undoubtedly the finest institution of its character in the world. It is constructed of stone, brick and steel and in the finishing, as little wood as possible is used. The floors are mosaic and cement except in the wards, where they are of teak. The walls are glazed brick or cement and throughout, the interior has a smooth finish; the angles and corners are modified into rounded surfaces and all the plumbing is exposed. Nothing better can be said of its operating room than that it equals the small operating rooms of the Albany Hospital in equipment and precautions against infection. The out-patient department is huge and admirably arranged and though constructed to accommodate the largest eye clinic in the world, its capacity is often taxed. The great number of patients that come to the clinic daily gives the student all that he can do and often, more than he can do properly. The American student will find his work in refraction unsatisfactory unless he adheres to his American teaching and that he is at perfect liberty to do. I venture to say that in no other clinic will he find a greater number of cases of inflammatory diseases, fundus changes and congenital anomolies, or be able to examine them under better conditions or follow them more closely in their treatment. He is permitted to perform many operations and continue the after-treatment. Considerable time can be most advantageously spent in following the operative work of Mr. Morton, Mr. Treacher Collins, Mr. Holmes Spicer and Mr. Lawford. The technique of these men is faultless and one is not surprised that accidents are so rarely seen. In cataract operations the loss of a bead of vitreous is the rarest occurrence. I have been impressed with the large number of cases of high myopia operated upon by discission or simple extraction of the lens. Mr. Collins places the age limit for removal by discission at thirty years; beyond that age he performs simple extraction, but the necessity for the later operation seldom occurs as the patients usually come for relief long before that age. Whether the number of cases of high myopia seen here is absolutely greater than in America, or whether the proportion is the same in relation to the total number of eye-cases seen, I am unable to say. Retinal detachment, the accident to be feared after removal of the lens, in these cases, causes little apprehension here though it sometimes occurs. Mr. Collins has operated upon twenty cases approximately without a detachment resulting, and his observation in some cases has extended over a period of many years. Mr. Morton has had a similar and more extensive experience.

The Royal Westminster Ophthalmic Hospital in Charing Cross has a clinic a little more than one-third the size of that at Moorfield's, but the student can get an excellent service there under Mr. Frost and Mr. Hortridge. It is not crowded with students and in this respect is better than Moorfield's, though the facilities are much inferior. Moorfield's is justly entitled to the reputation of being the best hospital in the world for the student in ophthalmology to finish his studies and not a small element in obtaining this reputation are the courtesy and attentiveness of the surgeons.

Some of the ophthalmic hospitals and the Ophthalmological Society of the United Kingdom give a "clinical evening" about once a month. Through the courtesy of Mr. Frost I attended one at the Royal Westminster Hospital in April which was under his supervision. About thirty of his most interesting fundus cases were placed at the disposal of invited surgeons for examination.

This week some rare and instructive cases were exhibited by various surgeons at the Ophthalmological Society and discussed by Mr. Nettleship, Mr. Frost, Mr. Lawford, Mr. Collins and others. This might be a pleasant departure for some of the American societies to consider.

I have seen little of the work in general medicine or surgery or in special lines apart from ophthalmology, but drawing my conclusions from what I have seen and from what I have been told by many keen observers, we have much to be proud of and need be ashamed of nothing in our domain of medical science.

HARRY S. PEARSE.

STATE SANITARIA FOR TUBERCULOSIS IN MASSACHUSETTS.

308 COMMONWEALTH AVE., BOSTON, MASS., *May* 17, 1900.

TO THE ALBANY MEDICAL ANNALS:

Gentlemen.—You may be interested to know that the Committee on Public Health have reported favorably upon another $150,000 consumptive sanitarium for our State, and the bill now awaits a hearing before the Ways and Means Committee. The Rutland Sanitarium has so aroused and educated the people that they are clamoring for another, and I think we shall get it, and then we shall ask for another and another. I was quite disappointed with the paltry $50,000 your State appropriated for this purpose, but it will serve as an object lesson, and later you will get a more liberal appropriation. The people will demand it, and what the people want, in the end, they get.

Very truly yours,
(Signed) EDWARD O. OTIS.

In Memoriam

WILIAM HENRY STUART, M. D.

Dr. W. H. Stuart died at his residence, Norwich, N. Y., April 12, 1900. He had been confined to his home for about three months, having given up practice in January. Dr. Stuart came to Norwich in 1871 and has been in active practice ever since, enjoying the confidence of the public and being eminently successful. He was a skilled diagnostician and was frequently called in consultation.

He was born in the town of German, in Chenango County, November 4, 1840. After graduating from the Cincinnatus academy he began the study of medicine in the office of Dr. A. D. Reed, of that village, afterward graduating from the University of Vermont and completing his medical education at the Albany Medical College, graduating in 1861. In the early part of 1862, a few months after his graduation from the Albany Medical College, he began the practice of medicine in Smyrna. Almost immediately, however, he volunteered in the medical service of the Union army and was appointed assistant surgeon of the 27th regiment, New York Volunteers. After that regiment was mustered out he was appointed surgeon of the 143d regiment. Later he had charge of the hospital of the 1st Division, 20th Army corps, a position he held until honorably discharged at the close of the war. Returning, he located in Earlville in 1865, where he practiced until 1871. He then came to Norwich.

In politics Dr. Stuart was a strong Republican and some years ago was active in party work. He was elected county treasurer in 1884 and held the office for one term. He was a member of Norwich Lodge, No. 302, F. & A. M., of the Chenango County Medical Society and the Smith Post, G. A. R., being surgeon of that organization.

November 8, 1894, Dr. Stuart married Mrs. Julia Port, daughter of Mr. and Mrs. C. W. Olendorf, of Norwich. He is survived by his widow and two step daughters.

ISAAC B. SCHAUBER, M. D.

The ANNALS has been informed of the death of Dr. Schauber (A. M. C., 1899), which occurred at his home at Green Island, N. Y., April 10, 1900.

Medical News

Edited by H. Judson Lipes, M. D.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—Annual Meeting held May 8, 1900, in Alumni Hall, the President, Dr. Van Allen in the chair. The following members were present: Drs. Applebee, Bailey, Ball, Barker,

Bendell, Blessing, Blumer, Boyd, Carroll, Case, Classen, Cook, Craig, Davis, W. H. George, Happel, Jenkins, LeBrun, Lewi, Lipes, Lochner, MacFarlane, McCulloch, Mereness, Merrill, C. H. Moore, Mosher, Moston, Munson, Murray, Papen, Richardson, Ryan, Theisen, Thompson, Van Allen, Vander Veer, Wansboro, Wilson, Wiltse.

1. Reading of minutes of last meeting. It was moved by Dr. Mosher that as the minutes had already been printed, they should be adopted as printed. Motion was seconded and carried.

2. No minutes of special meetings.

3. Reading of reports of officers and committees.

The treasurer's report was read by the treasurer, Dr. W. H. George, as follows:

TREASURER'S REPORT.

ALBANY, N. Y., *May 8th*, 1900.

To the President and Members, Medical Society, County of Albany.

Gentlemen.—The treasurer would respectfully offer the following report for the year:

Received from treasurer, Dr. W. H. Happel	$190 04
Expenses during the year	102 50
Balance	$87 54
Collections during year	111 00
	$198 54
Less checks uncashed at bank	18 00
Balance	$180 54
Collections during May	21 00
Grand total cash on hand	$201 54

Respectfully,

(Signed) W. H. GEORGE,
Treasurer.

Dr. LIPES moved that a committee of three be appointed to audit the treasurer's report. Motion was seconded and carried. The President appointed Drs. Bendell, Blessing and Lipes as a committee.

CENSOR'S REPORT.

The censor's report was then read by Dr. STILLMAN, and he stated that the following names had been acted upon favorably by the censors: Drs. H. L. K. Shaw, A. W. Elting, Edgar A. Vander Veer, A. H Traver and Howard E. Lomax. Dr. Stillman stated that there was nothing further to report as nothing had come up during the year requiring the attention of the censors, and no regular meeting of that body had been held.

Dr. BENDELL moved that the report be accepted, and that the names passed upon be balloted for as usual

Dr. BAILEY then read the report of the committee on hygiene.

REPORT OF THE COMMITTEE ON HYGIENE.

In an address given at a dinner before legal and medical gentlemen in this city, some years ago, the following remark was made: "The health of the citizens of Albany depends largely upon the condition of the bowels of the citizens of Troy." This is no longer true since the water used by Albany has been filtered through the new filter beds. Since this has been an accomplished fact typhoid fever has fallen off in this city nearly ninety per cent. In neighboring cities, still using river water, not filtered, this disease still continues very active, notwithstanding the report by one of our city officials that "$3,000 had been expended in an attempt to isolate the bacillus of typhoid fever in river water and to demonstrate its presence." We all know that many cases of typhoid fever have occurred in our city for many years, and very few fail to attribute the presence of this disease to the presence of the typhoid bacillus in drinking water as the most common cause. Sternberg, in his *Text-Book of Bacteriology*, says: "The generally recognized fact that typhoid fever is generally contracted by drinking water contaminated by the typhoid bacillus has led to numerous researches, having for their object the discovery of a reliable method of detecting the bacillus when present in water in comparatively small numbers, in association with the ordinary water bacilli. The use of Koch's plate method, as commonly employed, will not suffice, because the water bacilli present grow more rapidly and cause liquefaction of the gelatin before visible colonies of the typhoid bacilli are formed, and owing to the relatively small number of typhoid bacilli they are likely to escape detection." He also says, concerning typhoid fever: "A predisposition to typhoid infection is established by various depressing agencies, such as inanition, overwork, mental worry, unsanitary surroundings, etc., and that there is a considerable evidence in support of the supposition that exposure to the offensive gases given off from ill-ventilated sewers constitutes a predisposition to the disease." Another, in commenting upon the filtering of water for domestic use in cities, as applied to Albany, says: "The disease directly traceable to the sewer polluted water of the Hudson river was typhoid fever, the death rate from which the city of Albany for nine years, ending 1898, had averaged eighty-five per annum. During the first four months in which the filters have been in operation seven deaths from this cause have been reported, during the corresponding interval of nine years, ending 1898, the average number of deaths was twenty-four; so that the filtration of the water has reduced the deaths from this cause in the ratio of twenty-four to seven. The filtration plant at Lawrence, Mass., has reduced the typhoid fever death rate in that city from 11.31 to 2.54. The filtration plant in the city of Hamburg, Germany, was put in operation in 1895; during the five years previous to that date, the average typhoid death rate was 4.72, since that date it has fallen to 0.72. Since the opening of the filtration plant at Mount Vernon, N. Y., in 1894, the number of deaths from typhoid has decreased over seventy-six per cent."

Dr. MacFarlane moved that Dr. Bailey's report be accepted and spread upon the minutes of the society. The motion was seconded and carried.

Dr. MacFarlane then read a report of the committee on the secretary's minutes. He stated that two volumes of the minutes of the previous year had been bound; one volume had been sent to the State Library, and one volume retained for the use of the society. He supposed that it would be a good idea if these bound numbers could be put in some place where they would be accessible to the members of the society. The president suggested that as one volume was always deposited in the State Library that this was accessible. •

4. Election of members. Dr. Cook moved that the secretary cast one ballot for the names passed upon by the censors. The motion was seconded and carried and Drs. Shaw, Elting, Vander Veer, Traver and Lomax were declared elected to membership.

Under the head of motions and resolutions, miscellaneous business, amendments and by-laws no matters for discussion came up.

Dr. Van Allen then delivered the President's Address on "Some Points in the Etiology and Treatment of Phlyctenular Conjunctivitis and Keratitis in Children." The vice-president, Dr. Wiltse, was in the chair and declared the paper open to discussion. Dr. Cook moved a vote of thanks to the president, also that the address be spread upon the minutes of the society, and printed in the Annals.

The election of officers. The president asked the wish of the society as to whether they would like an informal ballot or to have nominations made. Dr. Cook made a motion that the method of procedure be nominations by the form of election. The motion was seconded and carried. Dr. Carroll nominated Dr. Chas. E. Davis for the office of president. Dr. MacFarlane nominated Dr. Wm. Hailes for the office of president. Dr. Cook said there were very few members there who had attended the society so long as he had, and among them there was one who had never been elected to the office of president. He nominated Dr. Wm. H. Murray for the office of president. The president appointed Drs. Lewi, Richardson and Ball tellers. An informal vote was then taken which gave Dr. Murray twelve votes, Dr. Davis seven and Dr. Hailes nineteen. A formal vote was then taken which gave Murray nine votes, Hailes twenty-four votes, and Davis four votes, one ballot being returned blank. Dr. Wm. Hailes was declared elected to the office of president.

Dr. Bendell then reported that the committee on the treasurer's report had examined the figures and found them to be correct.

The nomination for the office of vice-president was then declared to be in order. Dr. Mereness proposed the name of Dr. Martin MacHarg. Dr. Cook proposed Dr. Fred Crounse. Dr. Munson nominated Dr. D. C. Case. Dr. Case immediately withdrew from the nomination on the plea that he filled the position once seventeen years ago. Dr. Davis nominated Dr. Blumer. Dr. Ryan nominated Dr. Richardson. Dr. Richardson immediately withdrew stating that he was not a candidate for this position. Dr. Mosher nominated Dr. MacFarlane, who respectfully declined the nomination. Dr. Mosher then stated that the secretary's minutes, as prepared for the ALBANY MEDICAL ANNALS during the last year, by Dr. Blumer, had been most satisfactory, and it had been his intention to request Dr. Blumer to accept a re-election to the office of secretary. Dr. Blumer said that after Dr. Mosher's remarks there was nothing left for him to do but withdraw his name from the nomination for vice-president. The name of Dr. Crounse was withdrawn as it was found that he was not a member of the Society. A ballot was then taken with the following result: Dr. Richardson, one; Dr. MacFarlane, two; Dr. MacHarg, twenty-five and Dr. Blumer nine. Dr. Mereness moved that the secretary deposit one ballot for Dr. MacHarg. The motion was seconded and carried, and the secretary cast the ballot. The president declared Dr. MacHarg elected vice-president.

Under the head of nominations for secretary Dr. BALL moved that the treasurer cast one vote for Dr. Blumer. The motion was seconded and and carried, and the secretary cast the ballot. The president declared Dr. Blumer elected secretary.

Under the head of nominations for treasurer it was moved that the secretary cast one vote for Dr. W. H. George. The motion was seconded carried, and the secretary cast the ballot. The president declared Dr. George elected treasurer.

Dr. BENDELL then moved that the secretary cast one ballot for the five censors, substituting the name of Dr. T. A. Ryan for that of Dr. MacHarg who had been elected vice-president. The motion was seconded and carried, and the secretary cast the ballot. The president declared Drs. Archambault, Featherstonhaugh, Stillman, Lochner and Ryan elected censors.

A motion to adjourn was made by Dr. MUNSON. Seconded and carried.

GEORGE BLUMER, *Secretary.*

T. F. C. VAN ALLEN, *President.*

ALBANY HOSPITAL TRAINING SCHOOL FOR NURSES.—The graduating exercises of the class of 1900, of the Albany Hospital Training School for Nurses, occurred Thursday afternoon, May 10, at the hospital. This was the first class to graduate from this institution. Thirteen young women who have taken the three years' course of hospital training under the direction of the superintendent of the training school, Miss Emily MacDonnell, received diplomas.

The graduates were: Florence Elizabeth Wright, Canada; Mabel Annie Wark, New York; Eliza Bottsford Callender, Massachusetts; Jennie Fenton Smith, New York; Nora Josephine Hogan, New York; Mary Gertrude Snyder, Canada; Annie Cumming, Canada; Cornelia Pauline Lansing, New York; Mary Ellen McIntyre, Canada; Nancie Sophia Ellis Tupper Cameron, Canada; Mary Harriet Giffin, New York; Sarah Spooner, Canada, and Jennie Crounse, New York. The hospital was in gala array for the occasion. From the tulips in bloom in the garden beds and the green lawns outside, to the blossoms and foliage that embowered the platform of the pavilion in which the exercises were held; Elgie's orchestra furnished excellent music during the entire afternoon without money and without price, and the audience hall was crowded with representative Albany folk, men of affairs and governors of the institution, members of the woman's auxiliary board, patronesses and friends of the hospital in general. Place of honor was given to the medical and surgical staff of the hospital, and to the graduating class and nurses, who at the left of the platform in their pink and white uniforms made a showing of rose color, white caps set crisply above bright faces and white aprons of their office proudly worn. Judge Learned presided and announced the order of the exercises. The opening prayer was made by Rev. Dr. William Force Whitaker and the opening address by Mrs. Hunter Robb, of Cleveland, O., a prominent representative of the nursing profession, identified with the training school of the Johns Hopkins hospital until her marriage to an eminent member of its faculty, Dr. Robb. Mrs. Robb took for her topic "Nursing as a Profession," and gave a most earnest and eloquent address. Dr. Albert Vander Veer, Dean of the Albany Medical College and head surgeon of the Albany Hospital, to whose untiring enthusiasm and efforts the establishment of the training school, and indeed the new hospital with its perfect equipments in all departments are largely due, made the address to the graduating class. Judge William M. Learned then presented the diplomas with well chosen remarks. Benediction by Dr. Whitaker closed the program. The hospital was thrown open to guests, members of the medical staff and nurses acting as a reception committee, and in the Nurses' Home an elaborate luncheon was served.

BANQUET OF BETA CHAPTER OF THE PHI SIGMA KAPPA.--The reunion and banquet of Beta chapter of the Phi Sigma Kappa fraternity occurred May 1st at the Kenmore. Beta chapter is one of the oldest of the fraternity, and was established at the Albany Medical College on February 2, 1888. Prior to the banquet, initiation ceremonies were held at the fraternity's rooms in the DeGraaf building, and were presided over by Frederick William Loughran, M.D., of New York, who is the present president of the grand chapter of the order. Dr. T. F. C. Van Allen, of this city, was duly elected to membership. Dr. Arthur G. Root, of Albany, acted as toastmaster and in a few well chosen words introduced Dr. Hermon Camp Gordinier, of Troy, who responded to the toast "Faculty." M. J. Thornton, class 1901, Albany Medical College, talked of "Our Chapter." W. H. Happel, M. D., of this city, in his quaint, humerous way spoke of "Sister Chapters." Dr. Frederick W. Loughran, of New York, president of the grand chapter, responded to the toast, "The Council." Dr. Loughran spoke at length of the advisability of procuring a house for Beta next year and, it is believed, when the college opens again next year, the fraternity will have a house of its own. After the regular toasts were responded to, remarks were made by Drs. LeFevre, Hailes and others. A large number of the alumni of the Albany Medical College were present.

BACTERIOLOGICAL LABORATORIES OF THE RHODE ISLAND HOSPITAL.—The new bacteriological laboratories of the Rhode Island Hospital were formally opened Thursday, May 10. Drs. W. T. Councilman, J. W. C. Ely and

G. Alder Blumer (formerly adjunct professor of insanity, Albany Medical College) made remarks appropriate to the occasion.

A NEW SOCIETY FOR PATHOLOGY AND BACTERIOLOGY.—At a meeting recently held in Washington of a number of pathologists and bacteriologists, a new national society was decided upon. A committee of seven was appointed to arrange plans of organization: William T. Councilman, Harold C. Ernst, Simon Flexner, Ludwig Hektoen, William T. Howard, Jr., W. H. Park, Theobald Smith, were the original promoters of the plan.

THE AMERICAN SURGICAL ASSOCIATION.—The following officers have been elected for the ensuing year: President, Dr. Roswell Park, of Buffalo; Vice-Presidents, Dr. J. J. Owens, of Chicago, and Dr. C. Parkhill, of Denver; Secretary, Dr. H. L. Burrell, of Boston; Treasurer, George R. Fowler, of New York; Recorder, Dr. DeForest Willard, of Philadelphia. The next annual meeting will be held in Baltimore, May 7, 8 and 9, 1901. The following new members were elected: Drs. Bevan, Harris and Ochsener, of Chicago; Dr. MacDonald, of Albany; Dr. Brewer, of New York, and Drs. Oliver and Taylor, of Philadelphia.

AMERICAN THERAPEUTIC SOCIETY.—In pursuance of a call for an American Therapeutic Society, issued by the Therapeutic Society of the District of Columbia, a meeting was held in Washington, May 1, 1900. The organization was effected and much enthusiasm displayed. The following were chosen as officers of the new society, which will become affiliated with the Congress of American Physicians and Surgeons, which meets in Washington every three years: President, Dr. Horatio C. Wood, of Philadelphia; First Vice-President, Dr. Howard H. Barker, of Washington; Second Vice-President, Dr. R. W. Wilcox, of New York; Third Vice-President, Dr. E. H. Long, of Buffalo; Secretary, Dr. Noble P. Barnes, of Washington; Recorder, Dr. Wm. M. Sprigg, of Washington; Treasurer, Dr. John E. McLain, of Washington. The meetings of the American Therapeutic Society will be held annually; the next meeting being in Washington, D. C., on May 7, 1901.

STATE BOARD OF HEALTH OF NEW YORK.—The bulletin for March 1900, reports 13,033 deaths for that month, being 2,000 more than the average for the past five years. The greatest increase was in acute respiratory diseases and these were especially prevalent in the maritime districts where influenza has been raging. Typhoid fever, according to the density of population, was most prevalent in the Hudson Valley district, there being twenty deaths from this disease in our immediate neighborhood; while New York City (all the boroughs) had only thirty with a population eighteen times as great. In Albany where measles and scarlet fever have been prevalent there was only one death from the latter. Of other diseases there were five deaths from diphtheria; three from erysipelas; diarrhœal diseases, five; acute respiratory, fifty-five; consumption, twenty-two; puerperal diseases, four; digestive system, seven; urinary system, six; circulatory system, seventeen; nervous system, twenty-one; cancer, four; accidents, five; old age, nine; unclassified, thirteen.

RADICAL CHANGES IN STATE HOSPITALS.— Four physicians who have long been identified with the care of the State's insane patients in Greater New York are summarily legislated out of office by the Burnett bill, which has now become a law, having been signed by the Governor. These men are Dr. A. E. MacDonald, general superintendent of the State hospital at Ward's Island; Dr. Oliver M. Deming, general superintendent of the State institution at King's Park; Dr. Elliot, medical superintendent of the old hospital at Flatbush, and Dr. Herman C. Evarts, medical superintendent at King's Park. It is understood at the office of the State Commission in Lunacy that for the present, however, until other arrangements can be made, the present superintendents will be permitted to retain their positions, as it is desired that the change shall in no way impair, even temporarily, the efficiency of the institutions concerned.

REPRESENTATION OF THE AMERICAN DERMATOLOGICAL ASSOCIATION AT PARIS.—At the meeting of the American Dermatological Association held in Washington in connection with the Congress of American Physicians and Surgeons, a committee was appointed consisting of Dr. J. Nevins Hyde, of Chicago, Dr. Henry W. Stelwagon, of Philadelphia, and Dr. T. Caspar Gilchrist, of Baltimore, to represent the association at the International Dermatological Congress to be held at Paris in early August, and to extend a warm invitation, in the name of the association, to the members of that congress to hold the next international meeting in this country in New York. The committee was further instructed, in the event of the congress giving a favorable response, to present the name, and urge the election of Prof. James C. White, of Boston, the first president of the American Dermatological Association, and an honorary member of the French and Italian dermatological societies, for the presidency of that congress. The following officers were elected: President, Dr. F. J. Shepherd, of Montreal; Vice-President, Dr. D. W. Montgomery, of San Francisco; Secretary, Dr. F. H. Montgomery, of Chicago. The next meeting meeting will be held in Chicago.

BANQUET IN HONOR OF DR. JACOBI.—The seventieth anniversary of the birth of Dr. Abraham Jacobi, of New York, was celebrated at Delmonico's on Saturday evening, May 5th, at a banquet which was attended by four hundred of his friends and professional associates. It was a distinguished and representative gathering, and a large number of ladies, among whom was Dr. Mary Putnam Jacobi, the wife of the guest of honor, listened to the speeches from the gallery. The menu cards contained an electroed vignette of Dr. Jacobi, and during the evening there was presented to him a "Festschrift," entitled "International Contributions to Medical Literature," which contained a large number of original papers by eminent physicians and scientists in all parts of Europe and America. More than a year was taken up in the preparation of this volume. Dr. Jacobi was born in Hutturn, Westphalia, on May 6, 1830, and was educated at Gottingen and Bonn. He enlisted in the "Young German" army of 1848, and was imprisoned for treason. He received the degree of M. D. in 1851 and came to New York in 1853. Although the banquet was held on the evening of the 5th, Dr. Jacobi's birthday was really the 6th of May, and so at midnight the entire company arose, and amid much enthusiasm drank a toast of long life and happiness to him. Dr. Joseph D. Bryant, one of Dr. Jacobi's successors in the office of president of the New York Academy of Medicine, presided, and made the opening address after dinner. Dr. Frederic S. Dennis read a number of congratulatory letters and telegrams from universities, professors and distinguished medical men in all parts of the world, after which an original poem, sent by Dr. S. Weir Mitchell, was read by Dr. R. U. Johnson. Dr. William H. Thomson, the present president of the Academy of Medicine, responded to the toast, "Dr. Jacobi, the Physician." Prof. William Osler, of Johns Hopkins University, responded to the toast, "Dr. Jacobi the Scientist." To the toast, "Dr. Jacobi in relation to Medical Education," President Seth Low, of Columbia University, responded. The Honorable Carl Schurz responded to the toast,"Dr. Jacobi as a Citizen." Next followed the presentation of the "Festschrift" which was made by Dr. Arpad G. Gerster. Dr. Jacobi, who was deeply affected, was greeted with loud and repeated cheers when he arose to respond.

PERSONAL.—Dr. W. G. Lewi has removed to 115½ Lancaster St., Albany.

Dr. W. B. Sabey has been appointed Health Officer of the town of Coeymans.

Dr. George W. Jacoby announces his removal to 605 Madison avenue, New York City.

Dr. William M. Rapp (A. M. C., 1895) has removed from Glens Falls to Argyle, N. Y.

Dr. Herman W. Katz (A. M. C., 1897) has removed to 180 Henry St., New York City.

Current Medical Literature

SURGERY

Edited by A. Vander Veer, M. D.

Lesions of the Lateral Sinus in Traumatism of the Brain.— By GANGOLPHE and PIERY. (*Revue de Chirurgie, September, 1899.*) The writers report a case in which following traumatism of the head there were characteristics symptoms of a cerebral apoplexy, with absolutely no signs of fracture of the skull and only a slight scalp wound. At autopsy it was found that there was a rupture of the lateral sinus associated with a large clot between the dura and the skull, which had caused marked compression of the brain, and to this the symptoms were due. In this case the pulse was rapid, the temperature elevated and the respirations accelerated, exactly the opposite of the conditions thought to prevail in increased cerebral pressure. The writers had collected seven cases of rupture of the lateral sinus from the literature. From a careful study of the case reported by them, as well as those collected from the literature, they conclude:

1. Lesions of the lateral sinus and traumatism of the head can be produced in one of two ways, either by a rent produced by a fragment of bone or foreign body, or by a rupture resulting from the separation of the fractured bones.

2. These lesions of the lateral sinus cause a hemorrhage which forms a clot situated between the dura mater and the skull. The site and extent of the clot is determined in part by attachment of the dura mater and in part by the extent to which it is torn loose before the hemorrhage. In some cases there is also a bloody accumulation in the subarachnoid space.

3. The symptomatology of the lesions of the lateral sinus is most variable. Instead of giving the picture of cerebral compression, it often exactly reproduces the picture of cerebral apoplexy.

4. Not only is diagnosis often impossible, but at times one cannot even affirm the existence of an intra-cranial extravasation of blood.

5. In a case difficult of diagnosis when one has only to think of apoplexy or traumatism, one should proceed as if he were assured of the existence of an intra-cranial accumulation of blood of traumatic origin.

6. The treatment to be pursued is the following: (a) if the lateral sinus is exposed one should pack the wound after having removed any splinters of bone or foreign bodies. (b) If the sinus is not exposed one should trephine. The trephining should be done at the site of traumatism, without reference to any signs of cerebral localization. The sinus should be packed with gauze.

The Infectivity of Malignant Growths.—SMITH and WASHBURN (*Edinburgh Medical Journal, January, 1900*) review the present state of knowledge upon the development and contagiousness of cancer, incorporating the results of inoculation experiments made by themselves upon dogs. The facts are summarized as follows:

1. Malignant growths may be regarded as local in origin, and as possessing the power of infection of adjacent and distant parts of the individual.

2. Inoculation may take place from one part to another of the same individual, apart from transference by the natural channel.

3. There is good evidence to show that one individual may be infected with growth from another.

4. There is experimental evidence to show that growths may be transferred from animal to animal of the same species by inoculation.

5. There are found in many malignant growths bodies which have a resemblance to micro-organisms, and which have been regarded as belonging to either the Protozoa or the Blastomycetes.

6. A new growth, having the structure and also the behavior of carcinoma, has been described as arising, at any rate, in two instances, from inoculation, with a form of blastomyces.

7. These experiments are highly suggestive that the bodies found in cancer are the cause of the disease, though the evidence is wanting that definitely associates the two.

PSYCHIATRY

Edited by G. Alder Blumer, M. D.

Korsakoff's Psychosis.— Raimann (*Wiener klinische Wochenschrift, 1900, No. 2*) writes upon "polio-encephalitis superior acuta and delirium alcoholicum as an introduction to Korsakoff's psychosis without polyneuritis." In 1887 Korsakoff directed attention to a special form of insanity accompanying neuritis. This was characterized by quickly developing mental exhaustion, lack of power to respond to impressions from without and severe disturbance of memory, as well as misleading memories. The consciousness of the afflicted person seems clear, his manner appears normal, all questions are answered correctly, with reference to what is taking place about him, and yet the memory is seriously involved. This is especially shown in his memory of recent events, and from it results a disturbance of orientation, first as to locality, and then as to time. Such a patient forgets where he is, nor does he know how long he has been in the situation in which he finds himself; he does not know the date or the time of the day. Inasmuch as his memory is so seriously involved it seems reasonable to suppose that there is a defect in consciousness or in cognition, to the extent that passing events make a very slight or no impression at all. In addition to these manifestations pseudo-reminiscences are present, which complicate the clinical picture. These are associated with subjective activities of the special senses leading to hallucinations or illusions. This symptom complex is associated with a sense of well-being; the patient cares little about the condition of his mind, lives indolently and easily through the day, the events of which leave no lasting impression upon him. The relation of this mental condition to polyneuritis rests in the identity of origin, both resulting from a toxaemic state induced by alcohol. Non-alcoholic frequently present polyneuritis without mental complication, but in alcoholic cases it is the rare exception to find this peripheral condition without mental symptoms. On the other hand Korsakoff's symptom-complex has been rarely reported as occurring without the neuritic accompaniment. The author's object is to present an argument and a case showing the possibility of a mental condition corresponding with the psychosis described by Korsakoff, but unaccompanied by polyneuritis. His patient was a pure alcoholic, whose symptoms were explainable upon the assumption of polio-encephalitis, which terminated favorably. The author concludes with a comment upon the prognosis, to the effect that even in so severe a lesion as encephalitis, it is not hopeless, but the inclination to alcohol, even in successful cases, leaves little hope of escape from recrudescence of the disease, or some equally serious result of intemperance.

General Pathology of Mental Diseases.—In the *American Journal of Insanity for January, 1900*, Berkeley, under this title publishes from advance sheets of "A Treatise on Mental Diseases," soon to be issued. The paper, after a general introductory statement, describes in full the gross and microscopical anatomy of the brain of the insane, going minutely into the pathology of the nerve cell, and of the cerebral arteries and veins, including syphilitic vascular lesions. The author recognizes the rough general classification of mental diseases which distinguishes the so-called functional disorders from the organic-degenerative types. Of the cell-lesions in simple insanities we have but the most vague ideas, beyond that during life we are able to note temporary congestions, vascular hyperæmias, and conditions suggestive of œdema cerebri, or the reverse, arterial spasm. These, however, are present in other conditions in which there is ordinarily no other evidence of grave cerebral disturbance, and the factor of heredity must be given due weight. But despite the fact that many points in a consideration of the pathological substratum of insanity are still obscure, there are sign-posts that point out the lanes and by-ways by which one may reach something approaching a high-road to the goal. In the various dementias, notably the paralytic form, in the states of exaltation and depression from gross lesion of the cerebrum, and in toxic insanities, a fair conception of some of the processes inducing mental diseases is to be ascertained. Foremost are changes in the vascular structures, ordinarily classed as periarterial, endarterial and atheromatous. By these changes the supply of nutrient plasma may be shut off to such a degree that the cell suffers from hunger, and, as in the last moments in the life of all tissues, a struggle to obtain nutriment ensues. This is shown clinically as a stage of excitement, after which the animal dies or becomes demented. Equally sure in results, but of slower progress, are the effects from damming back the return flow of the used nutrient plasma, which shows itself in effects upon the nerve cell of accumulated waste-tissue products.

In some of the acute mental troubles (delirium grave, febrile and confusional insanities) the chemical and bacteriological examinations of the blood and excretions have shown the presence of bacilli and poisonous substances, which have induced alterations in the cell sufficient to disturb its vital properties, shown clinically in excitement followed by some phases of stupor.

The lack of nutrient supply in cases of affection of the vascular system gives a distinctive pathology to the frequent types of dementia that begin after the middle period of life. In these slowly progressive vascular changes, we shall finally determine, from a pathological standpoint, the origin of the majority of the various types of the organic-degenerative forms of mental aberration, the first alterations in the vessels inducing the gradual change from full mental powers to the slight mental obliquities, irritability without cause, forgetfulness, perverted impulses and similar minor signs that stamp the beginning of the first stage. Later, when the lesions in the vessel-walls have progressed, the nutrient plasma, transuding through them, being altered both in quantity and quality, we find a rebellion of the brain cell to the lack of its accustomed food, showing itself in a stage of acute excitement; and lastly, when the nutrient supply has sunk to a point barely sufficient to maintain the cell alive, and chemical and histological alterations have been induced in its protoplasm, there results the final stage of terminal dementia.

VOL. XXI JULY, 1900 No. 7

ALBANY
MEDICAL ANNALS

Original Communications

MODERN METHODS OF PREPARING AND PRESERVING MATERIALS USED IN SURGICAL OPERATIONS.*

By C. HARPER RICHARDSON, M.D.,

Instructor in Surgery and Assistant Demonstrator of Anatomy, Albany Medical College; Surgeon to the South End Dispensary, Albany, N. Y.

Asepsis is the pass word to success in the surgery of the present generation. To no detail of surgical technique should it be more rigidly applied than to those operative adjuncts that we have come to speak of as "surgical materials." That these are largely responsible for the success or non-success of an operation cannot be disputed. Commercially prepared articles are always open to suspicion; hence, if we would be conscientious in our relations with patients who entrust themselves to our care, we must prepare our own supplies. We cannot always control the conditions under which we operate but we can and should see to it that everything that comes in contact with them is absolutely aseptic. All materials used in surgical operations can be sterilized either by subjecting them to the action of formic aldehyde gas, superheated steam or boiling water. Everything excepting animal sutures, such as cat-gut, kangaroo tendon, etc., can be reliably prepared by means of one of these agents. In our fight against infection they have proved our strongest and surest allies.

By super-heated steam, we mean steam so confined that we get fifteen pounds to the square inch pressure and a temperature of 265°F. To obtain this some form of mechanical apparatus is necessary and I know of none more easily understood and operated than the one you see here represented (fig. 1). This autoclav, or sterilizer, consists of a cylinder with two jackets, or chambers, closed at one end, a tight fitting door at the other, with entrance and exit for the water and steam, controlled by means of several wheels and cocks. The material is prepared in the shape to be used, put into the inner chamber and the door screwed home. About two and one-half quarts of distilled water are poured into the outer chamber or compartment, through the funnel shaped tube on top, ^{F} and the cock turned off. The gas is lighted underneath which gives a blue flame from the long Bunsen burner. ^{K} About fifteen minutes are required for the water to boil. The small cock nearest the operator ^{A} is left open until the escaping steam announces that the water is boiling, when it is

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* Read before the Medical Society of the County of Albany, December 13, 1899.

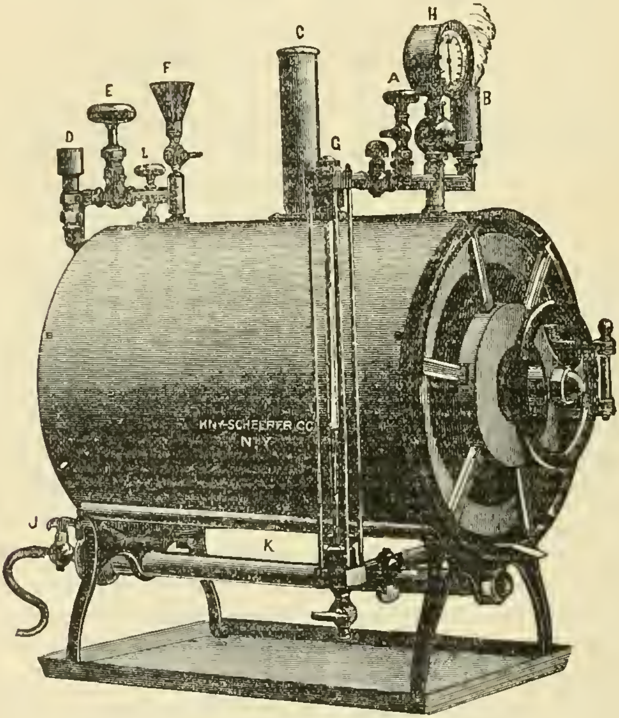

Fig. 1.

turned off. The water and steam are now confined in the outer chamber. The pressure and heat are registered by means of the gauge.[H] When the desired amount is reached the safety valve[B] controls and maintains it at that point. The valve can be set to any pressure up to thirty pounds to the square inch, but fifteen pounds is sufficient for the sterilization of anything. The super-heated dry steam is now allowed to pass into the inner chamber where the articles are, by simply unscrewing the largest black wooden wheel at the back.[E] After twenty or thirty minutes have elapsed, the large wooden wheel is screwed down, preventing any further entrance of steam into the inner chamber. This inner chamber is emptied of steam by unscrewing the little wheel on the further side and to the rear.[L] The steam now being confined in the outer chamber as in the beginning, serves the purpose of drying out the dressings, which requires about fifteen minutes. When the articles are removed they are perfectly dry and ready for use. It has been our custom to make up several packages at a time, containing sufficient gauze, cotton, and bandages, wrapped in towels for ordinary small cases about the office and for use in the South End Dispensary; they are then sterilized and are always ready when needed.

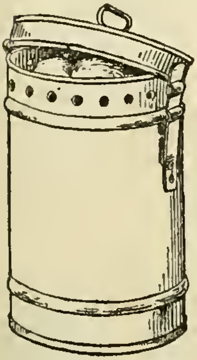
Fig. 2.

For abdominal cases, in country and private house work, containers, or cartridges (fig. 2) are very convenient. A complete outfit for one abdominal operation is contained in each one. This includes two aprons, two caps, two pairs of lisle thread gloves, ten gauze sponges, two long tampons, six towels, one gauze sheet, one tube silk (four sizes), one tube containing twelve strands of silk worm gut (previously sterilized by methods soon to be described), one tube silver foil, some smooth gauze squares, five Gamgee pads, one abdominal bandage, and one dozen safety pins. The container being perforated at the bottom and at the sides near the top, allows the steam to come in contact with everything contained therein; when removed from the autoclav, the cover is pressed tightly down which closes the row of holes near the top. The ones in the bottom are closed by means of a little slide. A clean linen jacket is then drawn over the container and it is placed in a leather case (fig. 3) for convenience in carrying. It will be seen that the container is not opened at all until the cover is removed for use at an operation.

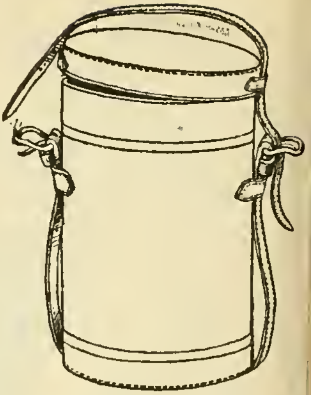

Fig. 3.

Gauze pledgets used for absorbing blood during operation, are made by taking pieces of gauze four inches wide and six inches long, folding them diagonally and tying in one flat loose knot. The corners or two ends are tucked in which leaves no free edge or selvage. Several glass cylinders (fig. 4), opened at both ends, covered by linen jackets, are filled with the pledgets and sterilized at the same time. They are always ready for any kind of an emergency. The sterilization of ligature materials has been a subject of much discussion. If we are sure they are aseptic, the *method* of sterilization is a matter of choice. The following plans are used by us and have proved satisfactory:

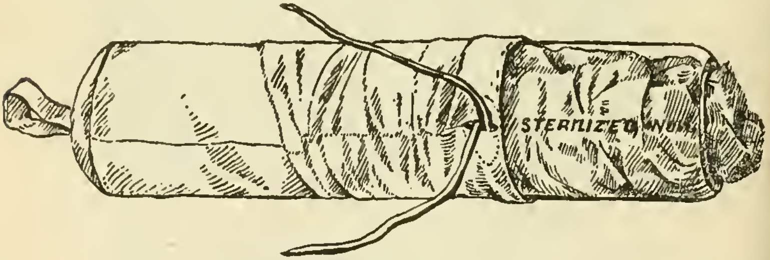

Fig. 4.

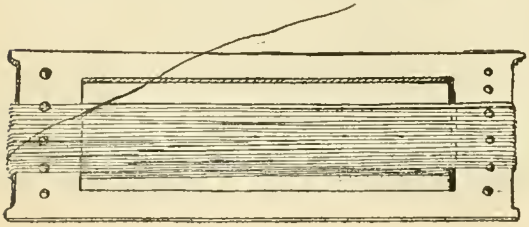

Fig. 5.

Silk. Nos. 00, 0, 1, 2, 3, best China twist, are tightly wound from the skein on metal (nickle plated) frames (fig. 5), two inches wide by six long; usually three skeins of each size are prepared at a time. They are then wrapped in a towel and placed in *boiling* distilled water for ten minutes, after which they are transferred to a slow dry heat oven, never above body temperature, and allowed to dry for five or six hours. If this is carefully done the silk when dry does not "crumple" or untwist but presents a smooth, sort of translucent, waxy appearance. Ten feet of Nos. 2 and 3, fifteen feet of Nos. 00, 0, and No. 1, are then wound on glass spools, and a spool of each size placed in a previously sterilized ignition tube (fig. 6), and a little slip with date of sterilization inserted at the same time. A little loose cotton is used as a plug to prevent them rolling out, during the process of sterilization in the autoclav, which is the next step. The stoppers or cocks are made of cotton wool and gauze tied with a string. They are sterilized, and then placed permanently in the ignition tube with sterilized forceps, bacteriologically sealing them for an indefinite period. As one tube is sufficient for any ordinary abdominal case, we can wind from the frames as required. We generally prepare enough for ten or twelve cases at a time and keep them in a clean glass candy jar ready for use. When a tube is opened the silk unused is thrown away.

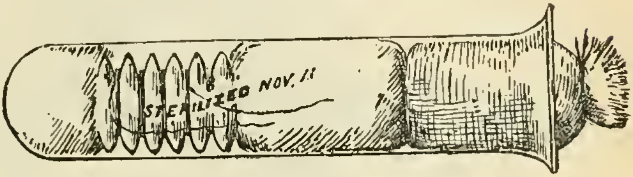

Fig. 6.

Silk Worm Gut. The 18 inch extra quality is preferable in abdominal cases where the patient has fat abdominal walls, and for cases in which the buried cat gut suture cannot be used, as with a draining tube. The ordinary 12 inch gut does very well for perineal and certain kinds of gynecological work. Two hundred strands of each are prepared at the same time and by a method that colors them black. This is a distinct advantage in perineal work for it enables them to be easily seen and removed. In an agate ware basin take (for 400 strands) of four per-cent nitrate of silver solution in which the gut has been put when cold. Allow it to heat over a slow Bunsen burner until it steams, or simmers for twenty minutes, being careful not to let it boil, at any time. Stir the gut constantly with a glass rod, and turn it frequently. This must be done at night or in a dark room. A pound of ordinary Rochelle salt is now added as a reducing agent. This acts on the solution by reduction to metallic silver which is deposited but not on the silver absorbed by the silk worm gut. By exposing the gut to the actinic rays of the sun in a large Petrie dish for an hour or so in the morning, it is colored a very dark brown which afterwards turns black. The color is permanent. It is now polished by means of a cloth or towel; six strands are made into a figure of eight bunch and two of these bunches, enough for one case, are put into a clean test tube (fig. 7) and sealed with cotton wool. It is now subjected to the action of the autoclav the same as the silk.

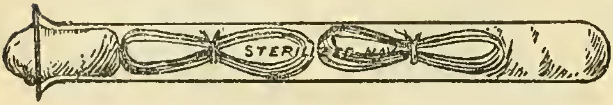

Fig. 7.

Metallic sutures and silver foil (fig. 8) are sterilized in the autoclav only. Cat gut and other animal sutures can now be prepared so that they are beyond suspicion. Many plans have been devised for their sterilization but the cumol method of Kronig, modified by Clark, of the University of Pennsylvania, is the ideal one.

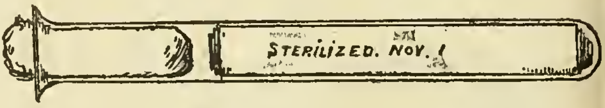

Fig. 8.

The Clark cumol sterilizer (fig. 9) is briefly a strong iron cylinder, supported in the vertical position by four legs; surrounding the cylinder is a nickle plated copper jacket. Interposed between the jacket and cylinder is a layer of sand which acts as a sand bath. The heat is obtained by means of a Bunsen burner from beneath. It has a solid cover, held in place by four thumb screws. The cover is perforated in the center to admit a high temperature thermometer. The cumol fills the cylinder more or less completely and can be drawn off by opening the little valve under the glass gauge. It is simple of operation but requires constant attention. Only the essential points of the process of preparation and sterilization of the gut will be mentioned, referring any who may be in-

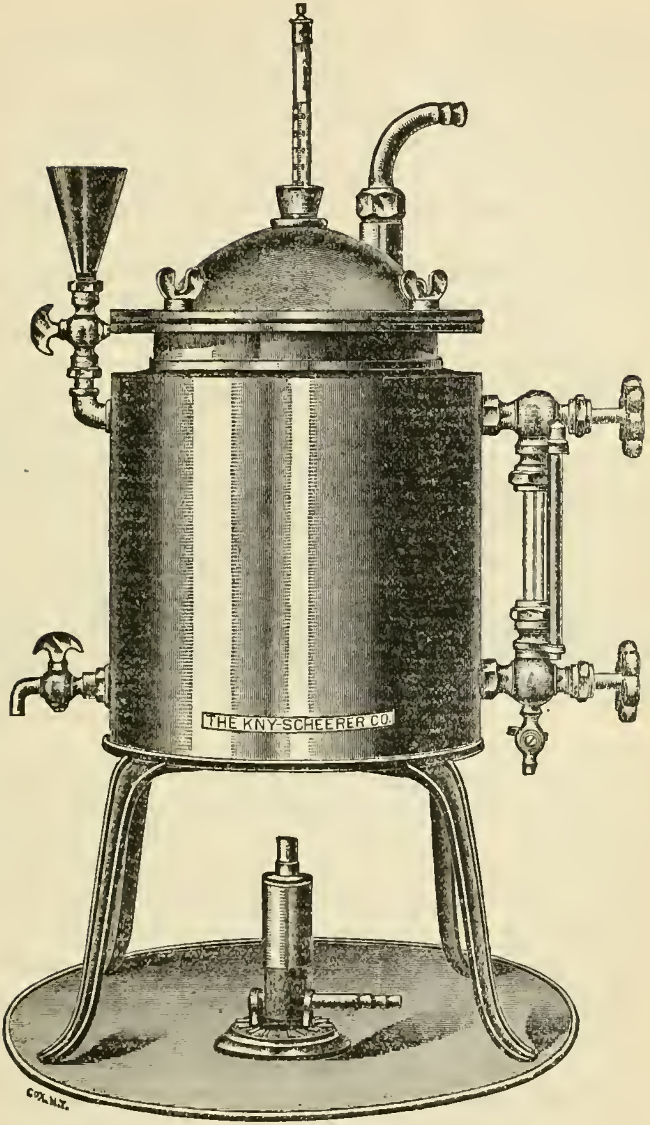
THE KNY-SCHEERER CO.
COX, N.Y.

Fig. 9.

terested further to Dr. Clark's article in the *Johns Hopkins Hospital Bulletin*, of February and March 1896, Nos. 59 and 60. It is worth reading.

Process. (1) Cut the gut into the desired lengths, roll into a figure of eight form and tie the isthmus with fine silk.

(2) Suspend the gut, in a wire gauze frame, (which will fit the interior of the sterilizer) taking care that the gut does not come in contact with the metal.

(3) Place the wire frames in a dry heat oven, raise the heat to 80° C. and hold it at that point one hour. This dries it thoroughly.

(4) Transfer the frames from the oven to the cumol in the sterilizer, which should show a temperature of 100° at the time. Gradually raise from this to 150° and hold at that point one hour.

(5) Take the frames out of the cumol with sterilized forceps, wrap in sterilized towels, and replace in dry oven (temperature 100°) for two hours. This evaporates the cumol and dries the gut and if properly done no odor of the cumol can be detected.

(6) Transfer the sutures with sterilized forceps, into previously sterilized test tubes, mark sizes on these (fig. 10) and close them with aseptic cotton wool plugs.

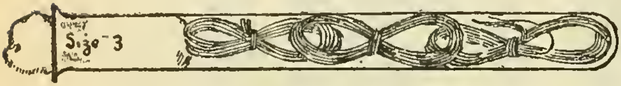

Fig. 10.

By the above process no water comes in contact with the suture material, hence its strength is not in the least impaired.

Rubber Gloves. Now that the fact is beyond controversy, that rubber gloves have come to stay, their sterilization without injury to the rubber becomes an important matter. Various methods are in use, but all, except the one below, tend to injure the rubber, so that their life is short and hence they are expensive. Formic aldehyde gas is a recognized surface germicide. Rubber being a glazed or non-pervious substance it struck me that the gas offered a solution of the problem of how to sterilize, without injuring the gloves. My experiments with it have proved it a success as bacteriological test will affirm. (*N. Y. Med. Journal*, June 24, 1899.) The method, which is very simple, is as follows: Wash the gloves thoroughly with soda solution, inside and out, and hold for a minute or two over gas flame, or heater to dry. Dust liberally the inside with dry sterilized soap stone. Wrap each pair in a double layer of gauze. Two pairs of, say No. 8 for surgeon and assistant, and one pair No. 6, for nurse are laid on a towel and placed in a formic aldehyde sterilizer for two hours. Wrap in towel already at hand, mark sizes, with graphite, and they are ready at any and all times for hospital and out of town work. Four or five sets are usually prepared at the same time. They are sterile, dry, already powdered and can be put on in ten seconds. If the gloved hand is now dipped in sublimate solution 1-1000 for five minutes, and rinsed in normal salt solution, we have nothing to fear from the hands, now one of the most fertile sources of infection. The above assumes the proper cleansing of the hands before removing the gloves from the packet.

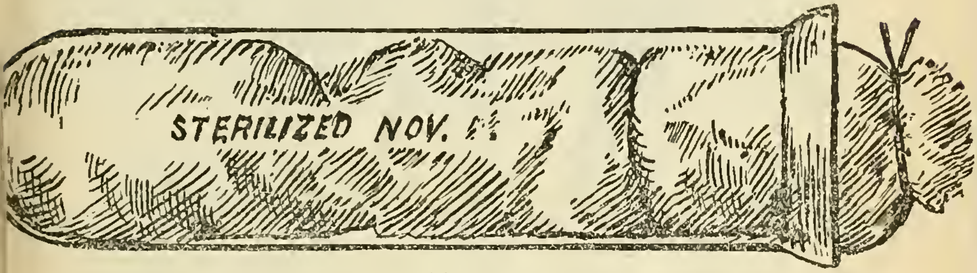
STERILIZED NOV.

Fig. 11.

Iodoform gauze. This material is now used in aseptic surgery only for packing cavities, and the control of hemorrhage, etc., but when it is used it should be aseptic. Iodoform will inhibit the growth of bacteria, but it is a germicide only to a mild degree. If infected iodoform gauze should be introduced into cavity, the bacteria finding there a good culture medium, would start to grow and so we might have primary infection, or, if used in a pus case, it might readily mix the infection and cause it to assume more serious proportions. Sufficient heat to sterilize sublimes the iodine and renders the guaze very irritating and unfit for use. It has been our custom for two or more years to sterilize our iodoform gauze by means of formic aldehyde gas, and we have never seen a single case primarily infected, or the infection mixed from the use of gauze so sterilized. It is cut into suitable lengths, enough for one dressing, loosely rolled, slipped into a glass ignition tube (fig. 11), and subjected to the gas, in a suitable sterilizer for two hours. Schering's is the one now used by us, because of its simplicity. Two dozen tubes for major cases and one dozen each for uterine and vaginal use, are generally prepared at the same time.

Water for surgical use is distilled, then boiled in netted bottles (fig. 12) with perforated rubber corks. Should we wish to make normal salt solution, say two quarts, the bottle is emptied into a clean basin, another quart of boiling water from the kitchen tea kettle is added, and the contents of a gelatine capsule, containing 174.72 grains chemically pure sodium chloride is emptied into the basin. This gives a solution of the right strength. Should we wish to use hydrogen dioxide, it can be added by pouring out part of the water, boiling water and the dioxide added in any desired strength using the rubber bottle-attachment when irrigation is required (fig. 12).

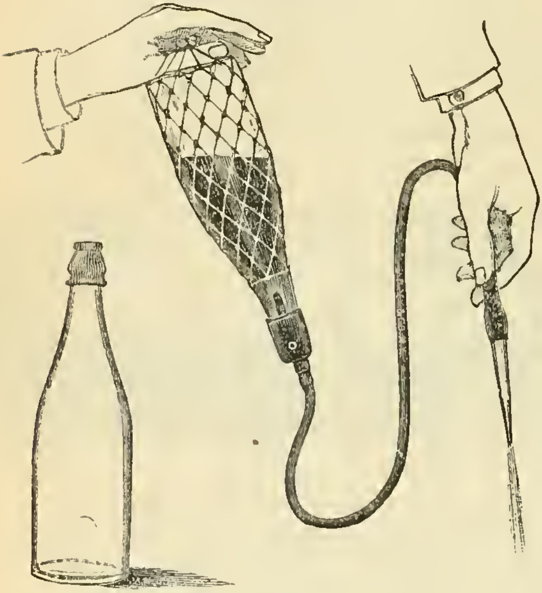

Fig. 12.

Instruments after use should be cleaned with brush and sapolio, then boiled in plain or soda solution just before using. They should be kept under water to prevent their exposure to air. It is our custom to carry a set of nested copper, nickle-plated trays, a little stand with adjustable legs, under which a large alcohol lamp can be placed. With this the water may be boiled in a few moments, often saving time when there is no fire in the house.

Urethral instruments of flexible character are thoroughly washed, dried, powdered with dry starch, and subjected to the fumes of formic aldehyde gas. The fumes are generated from pastels in the bottom of the tray. The case here illustrated (fig. 13) and sterilizer is convenient and not a homely article in an office.

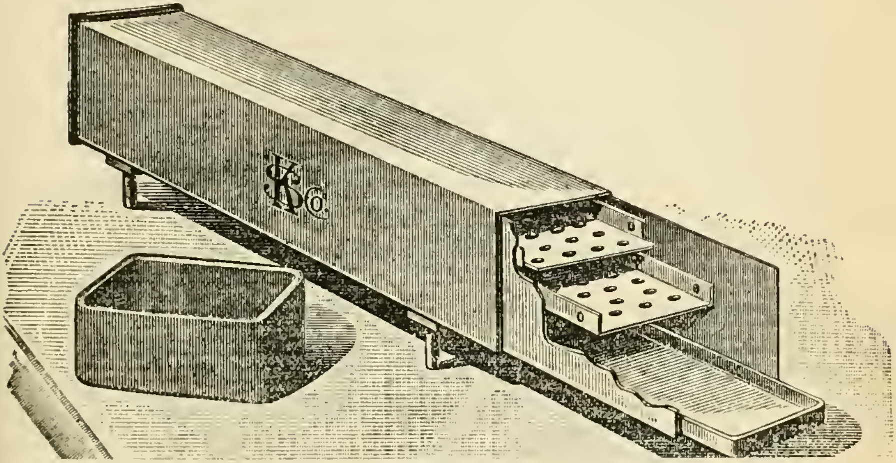

Fig. 13.

The above methods of preparation and sterilization of surgical materials, of course, require the outlay of some money, and consume considerable time. The time, however, is well spent and the instruments will last indefinitely The ones herein pictured are the property of Dr. W. G. Macdonald, for the use of which to illustrate this article, he has my appreciative thanks.

27 EAGLE STREET.

ANGINA EPIGLOTTIDEA ANTERIOR.*
REPORT OF THREE CASES.

BY CLEMENT F. THEISEN, M. D.,

Instructor in Diseases of the Nose and Throat, Albany Medical College.

The name Angina Epiglottidea Anterior was given to this interesting condition by Michel in 1878. As its name implies it is an inflammatory process involving the anterior surface of the epiglottis, as a rule confined to it, and accompanied by more or less œdema, which is the characteristic feature of this affection.

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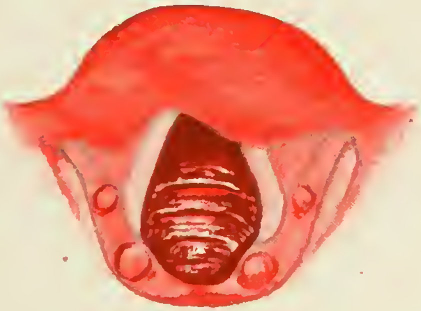
*Presented to the Section on Laryngology and Otology at the Fifty-First Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The larynx itself may be affected to a certain extent. At the very outset, I will take the stand that *true* angina epiglottidea anterior occurs quite often as a primary affection, and that it is a separate and distinct condition. This statement will I think be proved by the report of the following cases. An inflammation of the anterior surface of the epiglottis of course sometimes follows an acute inflammation of the tonsils, acute pharyngitis and affections of the lingual tonsil, but in these cases the epiglottitis is merely part of a general acute inflammation of the fauces, and must be distinguished from the primary or idiopathic epiglottitis. It must also be distinguished from a series of cases described by Arnold[30] in Burnett's *System of Diseases of the Nose, Throat and Ear,* to which term "Acute Miasmatic Epiglottitis" was given. This will be fully considered after the report of cases.

CASE I. Mr. W. B., aged 36. The writer was called on November 26, 1897, to see him by his family physician, on the second day of his illness. He had been perfectly well before the attack, and in fact had always enjoyed the best possible health. His physician had carefully examined his pharynx, but could find nothing to explain the symptoms. When seen by the writer, the patient was sitting in a chair, with an anxious countenance, and presented the appearance of being quite ill. He complained of a very severe sharp sticking pain about the base of the tongue when he attempted to swallow. Attempts to swallow even a few drops of water brought on severe attacks of choking and coughing. There was pain when he attempted to move the tongue. The patient had severe headache, was restless and had no appetite. His voice was clear and there was no particular difficulty in breathing. On examination, the nose, naso-pharynx and pharynx presented a normal appearance. The pharyngeal mucous membrane was not reddened. When the larnyx was examined, however, the cause of the trouble was at once apparent. The anterior surface of the epiglottis was intensely inflamed, of a uniform bright red color, and œdematous. (See illustration, Case I.) The larynx itself was practically not involved at all. Temperature, 101 deg. F.; pulse, 110. He was given an iced ichthyol spray, one-half per cent solution, which was used every twenty minutes, and an ice pack was applied around the neck. Cracked ice was also frequently dissolved on the tongue. The next day his condition had considerably improved, although there were still pain and difficulty in swallowing. The inflammation of the anterior surface of the epiglottis had subsided considerably and he felt better generally. The iced ichthyol spray was continued at half hour intervals during the day, and was used at longer intervals as the acute inflammation subsided. On the fifth day he was practically well, although the redness and swelling of the epiglottis did not entirely disappear for several days more. A culture was not taken from the epiglottis in this case. He had not inhaled any irritating vapors, nor had he been exposed to cold.

To Illustrate Dr. Theisen's Article on "Angina Epiglottidea Anterior."

Albany Medical Annals, July, 1900.



Case I. Mr. W. B.

CASE II. Mrs. S. L., aged 40. The attack came on very suddenly, the patient being in the best general health. She had not been exposed in any way and had not had a cold. She did not have a sore throat or even coryza before the attack came on. The writer first saw the patient on the morning of January 4th, 1900. During the night before she had been very restless and feverish, with headache and great pain and choking when she attempted to swallow. She had also experienced much difficulty in breathing when lying down, and had to sit up in bed. On examination the nose and naso-pharynx were normal and there was no evidence of any pharyngeal trouble. The mucous membrane of posterior wall, tonsils and faucial pillars was not reddened at all. The anterior surface of the epiglottis was much reddened and so œdematous that the laryngeal entrance was partly closed. The vocal cords were very slightly reddened and there was some swelling of the left ary-epiglottic fold (see illustration, Case II). Temperature, 102 deg. F.; pulse, 120. Calomel was given, and an iced ichthyol spray, one-half per cent. solution was used every twenty minutes, with an ice pack around the neck. The patient was also told to dissolve ice on the tongue frequently. Later in the day as breathing was not much easier, I scarified freely which gave her some relief. On the next day the patient was somewhat better and had not suffered as much during the night. Temperature, 101.5 deg. F. The epiglottis was much less œdematous and not as red. The laryngeal surface of the epiglottis was not swollen. The iced ichthyol spray was continued (every half hour during the day), and as in Case I, at longer intervals for several succeeding days. She had been able to take absolutely no nourishment the first two days, but on the third could take some milk as the difficulty in swallowing was much less. The epiglottis was still very red but the œdema both of that and left ary-epiglottic fold had practically subsided. Temperature, 101 deg. F., third day. Her condition improved from day to day and in a week she was feeling almost as well as ever, although the epiglottis did not get back to the normal condition for several days more. Immediately after scarification cultures were taken from the epiglottis and examined by Dr. A. W. Elting of the Bender Laboratory. The cultures showed a mixed infection of the staphylococcus albus and the pneumococcus. In the one culture the pneumococcus predominated. Examinations of the urine and heart were negative in this case. The patient had had no infectious diseases of any kind previous to her attack, nor had she ever had malaria. Injuries to the throat and the inhalation of irritating vapors could also be excluded as possible etiological factors.

CASE III. I am indebted for the following preliminary history of this case to Dr. MacFarlane, of Albany, by whom I was called to examine the patient's throat.

Mr. D. F., aged 59, widower, iron worker, born in England. He has always been perfectly well except for injuries received in his work. About three weeks before this attack he had a general cold with muscular pains and headache. On May 11th, 1900, he seemed perfectly well except for some slight pain in the back of the head. This became worse and late in the night seemed to be more in the throat (left side). The tongue appeared to patient to be swollen and hard, and could be only slightly protruded. The jaws could not be fully separated and there was a marked sensation of choking, although at this time patient was able to swallow. Absolutely nothing abnormal was seen by ordinary pharyngeal examination.

May 12. The throat was more sore; speech natural and voice clear; tongue could not be well protruded; temperature, 102 deg. F., pulse, 96. On *May* 13, the author was sent for. The patient's condition was quite serious. He had been unable to sleep the night before and complained of severe pain around the base of the tongue. He could swallow absolutely nothing as even the attempt to swallow a few drops of water brought on the most violent paroxsyms of choking and coughing. Temperature, 102 deg. F. On inspection of the throat, the naso-pharynx and pharynx were found to be absolutely normal. There was not the slightest evidence of inflammation. When the laryngoscope was used however, the epiglottis was seen to be enormously swollen and of a uniform redness. The left ary-epiglottic fold was somewhat œdematous with also some swelling of the right. An iced ichthyol spray, one-half per cent. solution, was used every twenty minutes, and an ice pack placed around the neck. Calomel and salines had also been administered.

May 14. The patient was not much better. The pain in the throat was somewhat better but he could not swallow anything. The epiglottis was scarified, some of the serous effusion from the deeper tissues obtained, and four cultures taken.

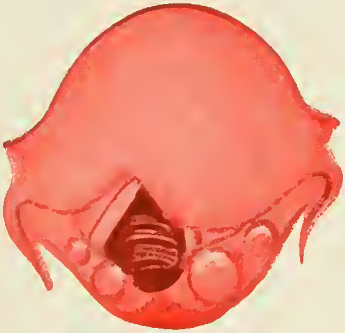
May 15. The patient had had a much better night and could begin to take a little cold milk. The œdema of the epiglottis was much reduced. Temperature, 101 deg. F. The ice spray was continued at longer intervals. His condition improved from day to day and on *May* 18, a week after the onset of the attack, the epiglottis was no longer œdematous, but still reddened and slightly thickened. The cervical lymphatic glands on both sides of the neck as well as the submaxillary glands had become swollen quite suddenly and were tender to the touch. He made a good recovery but had rather a slow convalescence. The cultures were examined by Dr. George Blumer of the Bender Laboratory, and showed a mixed infection of the streptococcus aureus and pneumococcus. There were numerous colonies, and about an equal number of both organisms.

Etiology. In considering the etiology of this rare affection several important facts must first be mentioned. It must be remembered that one of the main reasons why an œdematous condition of the anterior surface of the epiglottis does not involve the larynx itself, is, that the anatomical structure of the parts makes an extension of the œdematous process very improbable. In other words it depends upon the nature of the submucous cellular tissue. Hayek[23] by his valuable experiments has beautifully demonstrated this. The submucosa of the anterior surface is abundant and the mucosa not tightly adherent, while on the laryngeal surface the mucous membrane is tightly adherent to the cartilage, and with the exception of the region of the nodulus, there is no loose submucous tissue, so that in cases of true angina epiglottidea only the anterior surface of the epiglottis is involved. But although the œdema is *usually* limited strictly to the anterior surface, it may extend when the œdema is very great, by way of the thin mucous tissue of the pharyngo-epiglottic ligament to the ary-epiglottic folds. In mild cases however, the pharyngo-epiglottic ligament is an effectual barrier, separating posteriorly, the cellular tissue of the epiglottis from that of the sinus pyriformis and ary-epiglottic fold, and as a rule preventing the extension of the œdema from the anterior surface. The laryngeal surface is not involved in cases of pure unmixed epiglottidea anterior, so that cases of acute miasmic epiglottitis (as the six described by Arnold), must not be confused with the condition under discussion. Their eitology is also different. These cases are probably due to some vegetable or chemical poison present in the exhalations of marshes. This was so in Arnold's case; in all his patients, young male adults, the attack came on after they had been punting for ducks on mud flats off California coast. In all there was severe inflammation of the epiglottis (anterior surface), but swelling of the laryngeal surface as well, and in one, glottis œdema was a complication necessitating tracheotomy. In the one case too there was œdema of the uvula. For the sake of convenience in considering the etiology. angina epiglottidea anterior will be spoken of as acute epiglottitis or simply epiglottitis, which are really very good names for it, because as before mentioned an inflammatory process beginning on the anterior surface of the epiglottis, cannot easily be anything but a case of angina epiglottidea anterior, on account of the anatomical reasons already given. There is of course no doubt, that an acute œdematous epiglottitis may be secondary to inflammation of the tonsils, anterior faucial pillars or inflammation of the lingual tonsil. Injury to the lingual tonsil or epiglottis itself caused by swallowing any sharp or irritating substances or the inhalation of pungent chemical vapors might also cause it. The swallowing of raw spirits, of very hot or sharply spiced drinks or exposure to cold are also causes to be thought of. It is also a possible complication of Ludwig's Angina or Massei's "acute infectious follicular glossitis." It may be part of a general œdema of the fauces resulting from large doses of potassium iodide (as in several cases observed by the author). It may occur during the course of certain infectious diseases such as measles, variola, scarlet fever, erysipelas, septicæmia, pyæmia, etc. Malaria might also be an etiologic factor. It may occur very suddenly with perichondritis, carcinoma or ulcerative processes due to syphilis and tuberculosis. Angino-neurotic œdema need not be considered, as the symptoms of acute epiglottitis are those of an acute infectious disorder and fever is a constant smyptom.

In order to consider the etiology of *primary* epiglottitis, it will be necessary to review briefly the cases reported by different writers. In the opinion of the author, anterior epiglottitis is very *often primary* and is an acute infectious process. A study of the following cases (which are nearly all the authentic cases on record), including the author's cases as well, will show that this must have been the case in the majority of the reported cases, although in most of them, there was no mention of a bacteriological examination. First however an error must be corrected. Meyjes[34] who has reported an interesting case, makes the statement that Michel, of Cologne, was the first to report cases of this kind. He was probably the first to give the affection its present name, "angina epiglottidea anterior," but his cases are certainly *not* the first on record. Marsh[4] in the *Dublin Journal of Medical Science,* March 1, 1838, reported three cases of acute inflammation of the epiglottis in which the inflammation was undoubtedly confined to its lingual surface, and although he did not give it the name under which we describe the condition to-day, he nevertheless gave a most admirable description, which in all essential details, corresponds almost exactly with the disease as we recognize it. In his cases the attacks came on very suddenly. The pharynx in all cases was entirely normal, while the epiglottis was greatly reddened and œdematous. The epiglottis could be easily seen in the one case when the tongue was depressed. The patients were feverish. His accurate description and recognition of the condition are all the more remarkable when we consider that it was long before laryngology became an exact science. Long before this however, in 1791, Mainwaring[1] described a case which is one of the first on record. A man forty years of age, after exposure, was suddenly attacked at night with violent pain in the throat and complete inability to swallow. The pharynx

To Illustrate Dr. Theisen's Article on "Angina Epiglottidea Anterior."

Albany Medical Annals, July, 1900.



Case II. Mrs. S. L.

was entirely normal, the epiglottis was greatly swollen and œdematous. Three cases were reported by Sir Everard Home[2] in 1808. These cases too came on suddenly. The epiglottis was greatly swollen while the tonsils and surrounding parts were practically normal. Burne's[3] two cases were probably also of the same nature, one having a fatal ending. The pharynx was unaffected. Kesteven[7] reported two cases of epiglottitis (1849), and claimed that the disease was not met with except in connection with, or as a result of inflammation of the fauces, tonsils or larynx. One case has been reported by Windsor[11] and four by Larsen.[8] Three of Larsen's cases were acute and one chronic. Two of the acute cases were primary and the chronic case was of syphilitic origin. This subject has also been alluded to by Wunderlich[9] (1856). A case that had a sudden and fatal termination has been reported by Tompkins[5] (1841). After death, the epiglottis was found to be greatly swollen. Other cases have been reported by Louis[6] and Gibb.[10] Another case that ended in death has been reported by Crisp.[12] A boy eight years of age, after having been ill three or four days, died suddenly, apparently by suffocation. The autopsy revealed a swelling of the epiglottis which was also very red. No other lesion was discernible in any part. The peculiarities of this case were the sudden invasion of the symptoms and the circumscribed form of the inflammation, which was confined to the epiglottis. The author considered the death to be due to spasm of the glottis. No irritant had been taken. Fredet[16] has reported the case of a young man of twenty. He returned home one night after a debauch and suddenly developed great difficulty in breathing. The symptoms rapidly increased in severity and suffocation ensued in a short time. The autopsy showed great œdema of the epiglottis and ary-epiglottic folds. When the superior part of the epiglottis was incised a large amount of pus was evacuated. There was no fracture or necrosis of the cartilage. The suppurative epiglottitis was primary, followed by œdema, and the glottis œdema that caused death.

Now when we come to the more recently reported cases we find also a great similarity in nearly all, in the rapid development of the symptoms, and the almost constant presence of fever. This was particularly the case in the second case (that of a medical man, aged thirty-eight), reported by Milligan.[35] This case was considered to be of septic origin as the drains in his house were in bad condition. The inflammation of the anterior surface of the epiglottis was probably not primary in Milligan's cases (two), as in both the faucial pillars were congested, which is not typical of acute anterior epiglottitis. In Meyje's case the anterior surface of the epiglottis was greatly swollen and there was some redness of the right palatine arch. This case is a very good example of the disease. Michel[14] did not find the pharynx particularly affected in the six cases reported by him. Two of his cases were associated with swelling of the ary-epiglottic folds, in one there was inflammation of a vocal cord, and two were complicated with Ludwig's angina. Moll[19] has reported a characteristic case in which there were redness and swelling of the anterior surface of the epiglottis, dysphagia and fever. Pel[13] has called attention to the condition, and also Wesseler.[17] Ruault[20] has recognized the existence of a primary circumscribed œdema of the epiglottis. In some cases observed by Gottstein[22] no distinct cause could be ascertained. He questions whether œdema of the anterior surface of the epiglottis is ever *primary*. Schmidt[21] was and still is[32] of the opinion that it is practically always secondary to injury or inflammation of the lingual tonsil. Kyle[36] states that "acute epiglottitis is not a separate condition." Störk[18] on the other hand, twenty years ago recognized the fact that an "idiopathic epiglottitis" does occur under certain conditions. It is surprising that most of the prominent text books on the nose and throat either do not mention this at all or settle the entire question of the etiology of epiglottitis, with a few lines to the effect that it is very rarely, if *ever*, primary. Browne[33] makes no mention of angina epiglottidea anterior as a separate condition, but believes that "acute œdematous laryngitis" is quite frequently primary. And as acute epiglottitis must be considered as perhaps a form of laryngeal œdema, and has some of the same etiologic factors, there is no reason why it may not very often occur as a primary condition. Moure[15] too has mentioned the occurrence of primary œdema. Out of 6,062 autopsies held at the Charité, Berlin, thirty-three cases of œdema of the larynx were found, ten of which were primary. Bayliss[29] gives particular importance to malaria as an etiological factor in acute œdema. Kuttner,[26] Semon and Hajek have done much to clear up the vexed question of the etiology of laryngeal œdema in general, although both Kuttner and Semon are of the opinion that œdema should not be classified as a distinct condition. Semon[27] claims that many of these conditions that have been classified in the past as separate and distinct pathological conditions, have a pathological identity. I certainly believe that the whole chapter of laryngeal œdema will have to be rewritten some day. To dwell again briefly on my own three cases, we find that in each the attack came on very suddenly, with fairly high temperature, and symptoms of an acute infectious process. This is the evidenc we gather, too, from the other cases that have already been discussed.

While this is a most important point it still does not clear up the etiology, as in most of the later cases, no mention was made of bacteriological examinations. And while it is true that in a very careful search of the literature absolutely nothing was found about the bacteriology, I believe that the cultures taken in two of my cases will help to clear up the etiology. We found that the result of the culture examinations was a mixed infection in both cases. In the one a staphylococcus and pneumococcus, and in the other a streptococcus and pneumococcus infection. It will be said at once that this does not prove anything, that all these organisms, particularly the pneumococcus, are found in the mouth quite frequently, both under normal conditions (according to Park,[24] who has often found the streptococcus), and also in cases of simple acute angina (Veillou[25]). This is of course well known, but one important fact must not be overlooked: the cultures taken in cases of simple acute angina, in which the streptococcus is nearly always found, are from surface swabbings. The swab is usually simply brushed over the surface of the mucous membrane. In my own cases, the cultures were taken immediately after scarification; after the infiltrated *submucosa* had been cut into, and some of the serous effusion obtained from the *deeper* tissues. Then too the colonies were very numerous, and there were large numbers of the organisms. This gives the question quite a different aspect, and so far as these cases are concerned, they must be regarded as examples of acute primary *infectious* epiglottitis. This is a reasonable deduction, and from a study of some of the other recorded cases, I believe we may come to the conclusion with a fair degree of certainty, that the majority of them were also cases of the same nature, *i. e.,* acute infectious epiglottitis. It is of course a question, in the writer's cases, as to which organism was mainly responsible for the œdema. It is known that the pneumococcus, when some of the lower animals are inoculated with it, will sometimes produce local œdema. Welch,[37] in his interesting article on the "micrococcus lanceolatus," has brought this out. He quotes Foa, who distinguished a special variety of this organism. His pneumococcus he called diplococcus lanceolatus of the œdematogenic variety. This œdematogenic variety of the pneumococcus often produces, after subcutaneous inoculation into the subcutaneous tissue of some of the lower animals, widely spreading or *local* œdema. Welch has also obtained cultures, which when injected subcutaneously produced uniformly extensive local subcutaneous œdema. So it is quite possible that in the two cases, the pneumococcus had something to do with the production of the œdema. At any rate it is quite clear that the œdema was an acute infectious one, and that it was *primary*. In a case of primary œdema of the epiglottis and larynx reported by Levi and Laurens, [28] the œdema was also considered to be of an infectious nature.

Diagnosis. The diagnosis has been sufficiently discussed in considering the etiology, so that it need only be said that the condition cannot well be mistaken for anything else. The uniform redness and swelling of the anterior surface of the epiglottis are quite characteristic. The author would enter a most earnest plea for the employment of the laryngoscope in all cases where patients complain of severe pain in the throat and inability to swallow, with a *normal* pharynx. It is of course not necessary to say this to a society of throat specialists, and it is only meant for the general practitioner. If the affection is not recognized early the patient's condition may become very grave and serious complications arise.

Treatment. The treatment has been largely considered in the report of my cases. I would emphasize however the value of early scarifications. I thoroughly agree too with Meyje in regard to the value of an iced ichthyol spray. It certainly relieves the acute pain and reduces the inflammation very promptly. If for any reason ice, or iced sprays cannot be used, steam inhalations (medicated) would be of service.

Conclusions.

1. Angina epiglottidea anterior is *very often* primary and is an acute infectious process.

2. The term *"acute infectious epiglottitis"* is suggested for this condition as being more scientific, and more fully explaining its probable nature. It is of course understood that the inflammation and œdema involve *only* the anterior surface of the epiglottis.

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CARCINOMA OF THE STOMACH WITH REPORT OF CASES SHOWING INCREASED HYDROCHLORIC ACID.*

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It is only a few years ago that the diagnosis of carcinoma of the stomach was entirely a matter of scientific interest and had no practical significance. The prognosis was without hope; the treatment of no avail and strictly symptomatic. The belief in its hopelessness was so prevalent that even an attempt to make an early diagnosis seemed chimerical.

To-day, however, surgery of the stomach has made such advances that the complete removal of this organ is among the successful operative procedures while palliative operations have added much to the comfort and life of patients.

That the stomach is not an organ absolutely essential to life is shown by the fact that people who have complete absence of the gastric secretion are often unaware that there is any abnormality in their digestive system as the intestinal digestion compensates for this failure of the stomach.

Since operative procedure is the only hope it is the duty of the physician in all suspicious cases to make at the earliest possible moment a highly probable, if not an absolutely certain diagnosis in order that his patient may have this one chance for recovery.

Doubt has been thrown upon the possibility of making an early diagnosis in cancer of the stomach because the attempt has too often been made to diagnosticate carcinoma from the presence of one symptom alone which symptom has usually been due not to the carcinomatous process itself but to one of its secondary effects. There are diseases in which the presence of a single idiopathic symptom is sufficient upon which to base an absolutely correct diagnosis as the bacillus of tuberculosis in sputum, the gonococcus in an urethral discharge and the plasmodium malariæ in the blood. In the vast majority of diseases however the physician is satisfied not with one symptom alone no matter how characteristic, but seeks a complete picture of the disease entity and from the resultant of all the symptoms deduces his diagnosis. Medical history is full of failures due to the efforts from limited observation to make the presence or absence of a certain single symptom pathognomonic for the presence or absence of a distinct disease. Diseases of the stomach have been no exception and cancer of the stomach from the inherent difficulty of its early diagnosis has frequently suffered in this respect. As practically all the symptoms of carcinoma are due not directly to the cancer itself but to the secondary effects induced, the symptoms in any case will vary with these secondary effects which are not always the same and many of which may be the result of other pathological conditions. The mobility of the stomach may be practically normal or very seriously affected; the gastric secretion may be markedly modified or unchanged; the cancerous growth may be flat, infiltrating and therefore imperceptible to touch, or rough, nodular and easily palpable; the mucous membrane slightly affected or ulcerated with the presence of blood, pus and particles of cancerous tissue in the gastric contents. The difficulties of diagnosis and the reason for the seeming contradictions in the symptoms thus become evident. The general symptomatology of cancer is therefore of little value unless the symptoms are classified with the condition which induces them.

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*Read before the Medical Society of the State of New York, January 30, 1900.

The symptoms of carcinoma of the pylorus are very different from those of cancer involving other parts of the stomach, the signs of a diffuse growth different from those of a localized tumor, the evidence of an ulcerating tumor very different from that of one which has not ulcerated, the symptoms of a primary growth different from those where the tumor has secondarily developed. The significance then of the presence or absence of retention, hydrochloric acid, lactic acid, blood, pus, sarcinæ, yeast should not be applied indiscriminately to all cancerous conditions but to the selected cases in which the inducing condition is present.

The time allowed will not permit this paper to deal in detail with the diagnostic value of all the symptoms which may be associated with carcinoma of the stomach. I desire however to bring to your attention a series of cases sixteen in number in which what is ordinarily considered the most characteristic symptom of carcinoma—absence of hydrochloric acid—was not present. Since 1879 when Van der Velden[1] announced that the absence of hydrochloric acid in pyloric stenosis was due to carcinoma, although he did not regard it as a pathognomonic symptom, no question in medicine has aroused more discussion than this relationship of hydrochloric acid to carcinoma and its diagnostic significance. While some have claimed that the absence of hydrochloric acid was pathognomonic of cancer, it certainly has always been of the highest diagnostic significance. Kollmar,[2] Biach,[3] Eisenlohr,[4] Tapret,[5] Pignal,[6] Koch,[7] Ewald,[8] and Bouveret[9] have reported cases showing that the presence of nydrochloric acid is not necessarily inconsistent with the diagnosis of cancer.

The absence of hydrochloric acid in carcinoma is believed to be due to a gastritis, the direct result of the cancerous invasion or of the action of the toxines produced. The reason for its presence has aroused some difference of opinion. It probably always indicates a more or less intact mucous membrane. Many of these cases have been found to be cancerous growths upon the base of an old ulcer, the hyperacidity due to the ulcer being carried over as it were in the cancerous condition. The history, duration and course of the disease often make clear this sequence. Other cases are circumscribed cancerous nodules with no marked involvement of the rest of the mucous membrane or possibly carcinomata which have developed upon a condition of previous hyperacidity. The theory that as the oxyntic cells which are supposed to secrete hydrochloric acid are not situated at the pylorus, a cancerous growth affecting strictly this area should not interfere with the secretion of hydrochloric acid is not plausible since fifty per cent. of the cancers of the stomach affect the pylorus and only five to eight per cent. show the presence of hydrochloric acid.

Of the sixteen cases here reported, in twelve of which the diagnosis was confirmed by operation or post-mortem examination, six have clinical histories highly suggestive of a preceding ulcer. Hydrochloric acid was continuously present in thirteen and for a time found in the other three where it was later replaced by lactic acid. The pylorus was involved in seven cases, the pylorus and lesser curvature in two, the lesser curvature alone in one, and the growth was diffuse in one case. Lactic acid was present late in four patients, in three replacing the hydrochloric acid and in one associated with it. All suffered greatly from vomiting, retention determined by the presence of sarcinæ or food was well marked, emaciation and loss of strength were striking in every case and the appetite was poor in most of the cases.

The duration of the gastric symptoms varied from a few months to some years. In nine cases it was less than a year and in seven extended over a year, in several over a number of years. In seven cases pain was a prominent symptom while burning and distress were mentioned in two. These sixteen cases included eleven men and five women and their ages varied from thirty to seventy-two years. Three were in the fourth decade, seven in the fifth and the remainder, six, over fifty.

The object of this paper is not to add to the difficulties of diagnosis but to impress the importance of a possibility in a considerable number of cases of the absence of this the most characteristic symptom of carcinoma and the necessity of judging each case by itself. Statistics are of great value but necessarily of no assistance in determining the condition in an individual case and of course can never take the place of a careful, thorough examination.

The question to-day is not the necessity of making an absolutely certain diagnosis of gastric carcinoma, for many hold that that certainty is only possible when a tumor is present and then the time for successful operative procedure is probably past, but a highly probable diagnosis, after a thorough, painstaking examination, based upon the presence of some gastric symptoms of carcinoma together with the constitutional evidences of malignancy—progressive emaciation, anæmia, cachèxia. Exploratory operations I believe, are in such cases even more justifiable than in many other obscure abdominal conditions where the surgeon does not hesitate to make his diagnosis after his incision.

The following histories taken from the case records of Dr. Boas' private and polyclinic, Berlin, illustrate this condition—the presence of hydrochloric acid in carcinoma of the stomach. These histories have intentionally been condensed in order to emphasize the gastric condition. Some are not as complete as would be desirable because the records of dispensary patients cannot always be made so comprehensive as those patients in hospital wards

The writer desires to take this opportunity to acknowledge his indebtedness to Dr. Boas for many kindnesses and in this instance for the privilege of examining and using his case records.

C. H., aet. 54, laborer. For the past eight weeks has every three or four days great pressure in the stomach and vomits food eaten the day before; appetite is good and has no distaste towards food, though there has been much acid and foul belching. Has lost greatly in flesh and strength. Three fingers width above the navel, to the left of the middle line a resistance is felt 4 cm. in length and a finger width in thickness. Stomach fasting always contains fluid contents varying in quantity from 200 c. c. to 2,000 c. c. Test breakfasts show total acidity 63 to 101, total hydrochloric acid .14 to .20 per cent. with presence of sarcinæ and yeast and absence of lactic acid and long bacilli. Exploratory laparotomy showed the presence of a tumor. Death followed five days after operation.

F. H., aet. 30, gold beater. For last six months stomach trouble with daily vomiting of sour, slimy, yellowish masses but no blood; acid belching with foul odor. No pain, a feeling of pressure on vomiting. Smaller curvature is 5 cm. below xyphoid process while the greater curvature is between the navel and symphysis. Marked splashing and peristaltic movement from left to right. A transverse tumor the thickness of a finger can be felt along the smaller curvature extending from the left arch of ribs to the middle line, movable with respiration. Examination of stomach contents shows total acidity 54 with the presence of free hydrochloric acid. Later examinations showed disappearance of hydrochloric acid and the presence of lactic acid. At operation a soft tumor involving the lesser curvature was found with metastases in the mesentery.

M. H., aet. 44, housewife. For six months had every week attacks of vomiting which in the last four weeks occurred daily. At times the vomit is of a blackish brown color. After eating, pain in the stomach, then sour belching, burning and vomiting some hours later. To the left of the navel is a flat diffuse tumor the size of a small apple, painful on palpation. Pain posteriorly to the left of the 11th and 12th dorsal vertebræ. Stomach contents showed free hydrochloric acid. Patient after repeated attacks of a coffee-ground vomit died ten weeks after first examination. Autopsy not permitted.

A. F., aet. 50, housewife. Always well until three months before first examination and since then pressure before and after eating. Burning after solid food, less after milk and soup. Acid belching, vomiting after solid food, no blood in vomit or in stool. Pressure anteriorly is uncomfortable. Loss of flesh, general appearance poor, epigastrium retracted, stomach is found almost entirely below the navel. Just above the navel is rough, immovable and painful tumor. The fasting stomach shows liquid contents with food particles. Total acidity 76 to 104. Free hydrochloric acid .4 per cent. Operation showed a tumor embracing the pylorus and metastases in spleen. Gastro-enterostomy.

G. S., aet. 50, male. For six months has had gastric trouble, loss of appetite and pain which continued during the entire day and had no relation to eating. For a time condition improved under treatment. Marked loss of flesh, somewhat cyanotic. In the epigastrium a stone hard tumor is left and to the right a lesser resistance which is very painful on palpation. Test breakfast showed total acidity of 38 and the presence of free hydrochloric acid. Sugar formed in urine. Later stomach contents showed the absence of free hydrochloric acid. Autopsy seven weeks after first examination revealed a diffuse carcinoma of the stomach.

A. L., aet. 34., cigar maker. For eight years has had stomach trouble which gradually developed and grew worse. It began with pressing pains in the region of stomach some hours after eating. In the last year the pain has been more intense but relieved by vomiting which often consists of food eaten the previous day and is immediately induced by fruit, weiss bier, etc. When stomach is empty there is no pain. There never has been blood in vomit or stool. Patient is rapidly losing flesh. Examination of stomach contents gave total acidity 52, free hydrochloric acid present, also sarcinæ. Later free hydrochloric acid disappeared and lactic acid appeared. A resistance cord-like and the thickness of a finger was felt at the smaller curvature movable with respiration. Ten weeks after first examination operation showed a tumor at the pylorus which extended into the duodenum. Gastro-enterostomy performed.

W. S., aet. 47, watch-maker. For nine weeks he has had stomach trouble, poor appetite, acid belching and every two or three days sour vomiting, about two litres in quantity. Gastric contents strongly acid with presence of free hydrochloric acid. A few days later hydrochloric acid was absent and lactic acid appeared. He lost weight rapidly and after three weeks a resistance the size of a walnut movable with expiration was palpable in the epigastrium to the right of the middle line. Four weeks later operation and tumor found at pylorus.

C. F., aet. 57, carpenter. Eleven months ago had a severe hemorrhage from the stomach which confined him to bed for several months. Then gastric distress, pressure, vomiting and loss of appetite. Test breakfast showed a large quantity of hydrochloric acid and sarcinæ. Abdomen sensitive but no resistance palpable. Progressive emaciation with cachexia and eight months later in the epigastrium a hard resistance about the size of a dollar was palpable. Total acidity 35, combined hydrochloric acid 28. Autopsy which occurred soon after showed a large tumor at the pylorus. On opening the stomach there was an ulceration the size of the palm of the hand at the pylorus. This ulceration had a hard infiltrated border which microscopically proved to be carcinoma.

C. G., aet. 30, waiter. For three years stomach trouble shown by pressure after eating, vomiting at times before and at times after eating and sour belching. Appetite good but great loss of flesh. Examination of stomach contents showed total acidity 40, free hydrochloric acid 24, sarcinæ. Just above the navel a finger-thick transverse tumor was felt not movable with respiration. Later examination showed an acidity from 74 to 102 with free hydrochloric acid strongly marked. Exitus after gastroenterostomy showed pyloric carcinoma on the base of the old ulcer.

H. H., aet. 47, plaster worker. Has always had a weak stomach. Four years ago began to have belching of gas, pain and pressure in the region of the stomach with great hunger. Has attacks of vomiting which always occur some time after eating. Improvement followed treatment. About nine months ago the old condition reappeared with continuous pain and attacks of vomiting every three or four days. He is now much reduced in flesh and cachetic on the left side below the navel peristaltic movements. At the level of the navel a tumor, hard, painful and movable to the right and left. Examination of stomach contents showed marked acidity with the presence of free hydrochloric acid, An operation seven days later revealed a large carcinoma of the plyorus with cancerous degeneration of the mesentary.

F. L., aet. 50, housekeeper. Always well until four months ago when she began gradually to have recurring pains short in duration in the region of the stomach and belching of gas having a disagreeable odor. At times after eating she had attacks of vomiting and in the vomit food eaten days before was found. No hæmatemesis. Has lost greatly in weight and is markedly cachetcic. At the level of the navel a transverse, rough, hard, painful tumor is palpable 5-6 cm. long, freely movable and not affected by respiration. Marked splashing two fingers width below the navel. Repeated examinations of gastric contents showed acidity with presence of free hydrochloric acid, many sarcinæ and remnants of food. Gastro-enterostomy eleven days after first examination revealed a large tumor the size of the fist at the pylorus.

F. B., aet. 53, housewife. For ten years has had stomach trouble; one-half hour after eating pain and pressure. Vomits two to three times daily, often food eaten the previous day. Has lost in weight. Stomach reaches a hand's width beneath the navel. Four cm. above the navel and to the right is a transverse tumor about 5 cm. long which moves downward on inspiration. Repeated examination of stomach contents shows them to be acid with the presence of free hydrochloric acid and sarcinæ. Gastro-enterostomy five days later reveals a tumor which extends from the lesser curvature and completely embraces the pylorus. Stomach movable in all directions. Small mesenteric glands enlarged.

F. T., aet. 74, widow. Always healthy until two months ago when she began to lose greatly in weight. She vomits after two or three hours all liquids, while solids are better retained. The vomit has at times the appearance of coffee grounds. Suffers from pyrosis and heart-burn, but not pain. Tumor palpable. Gastric contents show remnants of food eaten the previous day, free hydrochloric acid, lactic acid and many sarcinæ. Patient came to the clinic on two occasions only.

G. B., aet. 60, waiter. For over a year has had stomach trouble. Pressure after eating and loss of appetite. For the last three weeks has had daily attacks of vomiting, often of food from preceding days. Vomit is often of a greenish black color as is also the stool. In epigastrium a round, hard tumor. Total acidity in different examinations 32 to 56 and free hydrochloric acid 6 to 12. Many sarcinæ. Lactic acid absent. Patient has lost fifty-one pounds in last three months.

E. B., aet. 50, merchant. For five years has had pressure in the stomach and tendency to vomiting which has in the last three years increased. For the last four weeks frequent vomiting of food and sour belching. Patient has lost sixty pounds in weight, is anæmic, and the cervical and subclavicular glands are enlarged. Just above the umbilicus and extending from the middle line to the right is a distinctly movable tumor which is moderately sensitive. Gastric contents show the presence of free hydrochloric acid with carcinæ and the absence of lactic acid and yeast.

H. V. M., aet. 62, government official. For several years has been troubled with heart-burn, especially at night. About a year ago had after a rich dinner sudden vomiting. Appetite has been gradually failing with weakness and loss of flesh. Has recently had feeling of pressure and fullness after eating and once vomited food which was eaten three days previously, also belches foul smelling gases. A large round tumor palpable in epigastrium and movable to the right and left. Repeated examinations of gastric contents show marked acidity with the presence of free hydrochloric acid and many sarcinæ, no lactic acid. Patient shows great loss of strength and marked cachexia.

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Correspondence

"HIT BY THE ECLIPSE."

WESTFIELD, N. J., *June* 5, 1900.

To the ANNALS:—Although "A Americanos para todo" ("To the Americans for everything!") implies something like disgust in Havana, and is an expression that is largely current, it is the more common thing for those who are very ill to seek the American medical men. I might say, in passing, that I think that the opportunity for our physicians is a good one; and in this Governor Wood (who is a physician) concurs. Of course, the disorders are much the same as in the southern states, but now and then the stranger discovers complaints that are apparently peculiar, at least in diagnosis and description. One very interesting incident is but recently on my note-book.

It has been generally read in the press as to the strange superstitions that were noted on the occasion of the eclipse. May I say they were not exaggerated? I need not repeat any of them. Instead, there is another, quite original, and medically related. We had been warned in advance, for it should be known that these superstitions are current on the occasion of every eclipse, lunar as well as solar, partial or total. They had told me that when the eclipse occurred, one of the things that mothers and nurses of infants would do, would be to strip the little ones naked as soon as the eclipse began, and leave them nude, on the ground, out of doors, till all was over. This, understand, was "so as to keep from being hit," they commonly say, "by the eclipse," but in a whisper they add, "by the devil." If the squalling young one takes a thorough-going attack of bronchitis or bronchorrhœa as a result, then it is "hit;" if it escapes, it is blessed. The "hit" child is of course carried first to the priest, and then taken to the doctor.

When it was announced that there was to be an eclipse, mothers went about among their friends crying "Guarte de el como diablo!" ("Beware, as of the devil!") The eclipse came, the children were exposed, and, as might have been expected, there were plenty of the babies who were "hit." Our medical men had their hands full, caring for the outraged specimens of humanity. That was in Cuba and Puerto Rica. But superstition has difficulty in shaking off its coil, and at least one Cuban mother, here in our enlightened United States, clung to it.

They are people of some education, a man and wife, with two little ones, aged three months and fourteen months. On Tuesday evening he came to the office very much excited, exclaiming "Dos hijas con su madre son tres diablos para el padre!" ("Two daughters with their mother are three devils for their father!") During his absence, for nearly three hours, on the sand in her back yard, the woman had exposed the children to the chill east wind. The father blamed her, but at the same time was inclined to fear the "devils." The woman was frank in her statement and averred that the little ones were "hit by the eclipse." Acute bronchitis, and the worst cases that I ever saw. Already there were atelectasis and apneumatosis, the bronchial tubes filled with mucus, respirations frequent, faces livid, high fever, and relative dullness. The prognosis was serious. The woman volunteered the information that in Havana "her doctor" (Spanish) would give tartar emetic, "to dislodge the devils," and, incidentally, the mucus. This was out of the question. A remedy to maintain nausea would depress. It was plain that the chief object of treatment would be to supply the wants of voluntary efforts of expectoration, and by sustaining measures to maintain the force of the respiratory acts. The priest had arrived a moment after we did, and he was a jolly, good-natured Irishman. He recognized the gravity of the situation at once, and I think horrified the woman by not mumbling prayers, but instead, offering to go with my prescription. We had had the best of success with eucalyptol in the treatment of grip; and it seemed to fill the indications. The priest went for it, and I gave it in ten minim doses every two hours, remaining to watch the effect. In four or five hours, I was gratified to find that the older child began to show better symptoms. The other did not show relief, but, apparently was suffocating. It was necessary to give *eau sedatif* to quicken the vitality. The effect was all that could be desired, and before midnight the child was perspiring even more freely than the other. The eucalyptol odor appeared in the breath, and as soon as the diaphoresis was in evidence, the dose was changed to once in four hours. Both children recovered.

Last evening the priest called to see me, and with a hearty laugh informed me that the Spanish woman gave him the credit, declaring that he had obtained "such a pleasant holy water" for me, which, "used as directed," had saved her children, "driven out the devils." And this is in commentary on the Australian doctors' opinion that "our eucalyptol is devilish good." Omit the adjective, and every physician who has used it for bronchial and broncho-pulmonary affections, will say "Verily."

W. H. MORSE, M. D.

Editorial

Shall the Pathological Institute of the New York State Hospitals Study the Pathological Material of the State Hospitals?

It is unfortunate that any dispute should have arisen between the State Commission in Lunacy and the Director of the Pathological Institute of the New York State Hospitals, still more unfortunate that this dispute should find expression in medical journals, and most unfortunate that the real point at issue should be obscured by personalities and that a letter should have been published resurrecting old antagonisms and animosities which were supposed to have been buried nearly a quarter of a century ago.

Up to the present time advance in our knowledge of disease has been acquired by a clinical study of the patient, by an investigation of the excretions and secretions during life, and by an examination of the diseased organs after death. This is a very laborious process and it is perhaps conceivable that better methods of studying disease may be found, but the old method has led and is daily leading to very substantial results, and where it has been replaced by theorizing and generalization, usually error has ensued.

The need of utilizing the pathological material afforded by an institution for the insane was publicly recognized in New York by legislative enactment in 1872, creating the position of special pathologist and providing for the equipment of a laboratory at the Utica State Hospital. This was further emphasized in the organic laws of later hospitals, and finally by the State Commission in Lunacy, which urged in 1893 the appointment of "an experienced and competent pathologist who should act for all the hospitals of the State," and in 1895 announced the creation of the "Pathological Institute of the State Hospitals." The authority for this action by the Commission is contained in the appropriation bill of 1895, providing *"for pathological research and for necessary expenses in establishing and maintaining a pathological laboratory for the benefit of the State hospitals,"* and again in the "Insanity Law" of 1896, providing for the appointment of a *"Director of the Pathological Institute who shall perform, under the direction of the Commission, such duties relating to pathological research as may be required for all the State hospitals for the insane."*

The Director's conception of the function of the Institute has been from the beginning a widening of the work of the laboratory, as far as possible, and the organization under him includes departments of normal histology, pathological histology, cellular biology, bacteriology, physiological chemistry, psychology, anthropology and comparative neurology. To this scheme there would be no objection, if, in carrying it out, the purposes for which the laboratory was primarily established were not disregarded.

In the *"State Hospitals Bulletin"* and its successor, the *"Archives of Neurology and Psychopathology,"* the official publications, there has appeared only one contribution by a member of the Institute staff upon the pathology of insanity, although abundant space and illustration have been devoted to subjects of more or less remote bearing, among which may be mentioned a technical study of the "nerves of bony fishes." Of the scientific excellence of the investigations thus published there can be only an opinion of approval, but the contention has been raised that such researches even if not altogether foreign to the purpose of the Institute, should not absorb its entire force. Such studies could be made in any laboratory, and do not at all depend upon any connection with the State hospitals.

The whole question lies in a nutshell. There is from the various State hospitals an immense amount of pathological material at the disposal of the Pathological Institute of these hospitals. The question is whether this particular Institute shall neglect this mass of material, shall disregard its duties as expressed in the law of its creation, and do work which can be done in any laboratory, or whether it shall work up the material from the State hospitals, of which it is the Pathological Institute, and in so doing both follow a line of study approved by experience and also increase the interest and value of the clinical work done in such hospitals, which, without such pathological control, is apt to languish. In other words is there to be an intimate relationship of mutual benefit between the State hospitals and their pathological institute, or not?

As we understand the Director of the Institute, he claims that no advance in our knowledge of insanity is likely to result from an examination of this pathological material. He has published an article on the "Correlation of Sciences," in which he has laid out a general plan of work which he thinks will lead to great results. It is to be hoped that this prophecy will be fulfilled.

But the days of the prophets are past, and the history of medicine is singularly deficient in discoveries or advances following such announcements.

As we understand the Commissioners in Lunacy, they have given the Director full play in carrying out his scheme, and are still willing that he and a good part of his staff should devote themselves to pure scientific research in any form. But they insist that the law of the State shall be obeyed by the officers of the State, that the teachings of history shall not be entirely disregarded, and that for the benefit both of the hospitals and of our knowledge of insanity, a considerable part of the force in the Pathological Institute of the State Hospitals shall devote its time to the study of the pathological material furnished by the State hospitals, or in the words of the law shall perform "such duties relating to pathological research as may be required for all the State hospitals for the insane." For our part we commend this action of the Commissioners as a proof of their strong common sense.

Infant Feeding

No more interesting discussion took place at the recent meeting of the American Medical Association in Atlantic City than that on infant feeding. None showed more diversity of opinion among specialists, thus proving that this subject upon which so much work has been done has hardly got beyond the embryonic stage.

Baginsky and Sommerfeld of Kaiserin Friedrich Hospital, Berlin, place reliance on the chemical examination of the milk to determine its fitness for food. They sterilize the milk for thirty minutes and do not believe that Barlow's disease results from the use of sterilized milk unless it is kept too long. Northrup showed that percentage feeding which is commonly thought to be the universal panacea, has simply added to the responsibilities of the physician by the need for constant observation to see that the infant obtains sufficient nourishment. Many physicians after having once determined the proper percentage lose sight of the infant and as he grows older and needs more nourishment, continues to receive the same formula. In such cases he had seen scurvy with rickets result. Chapin believes on the contrary that what is gained biologically is lost chemically in the sterilization of milk and has abandoned sterilizing, as the infants fed on such milk get thinner. The percentage system too does not at all solve the problem and many physicians have gone too far in their theoretical exactness of constituents. His experience is that the less cow's milk is manipulated the better are the results and he advocates the use of top milk of milk bottled at the dairy as this contains a sufficiently fixed quantity of fats, proteids and sugars and can be diluted as indicated with a gruel. Vaughan pointed out a condition often overlooked, i. e., that although sterilization may destroy the bacteria, the toxins are unaffected and the toxicity for that reason may be as marked in sterilized as in unsterilized milk. Jacobi thought that this maze of contradictions proved that nature was able to take care of her own under many different conditions; that no single method could be applied to every child and that the difficulties of this subject could not be brushed away by any magical formula. Many years experience has taught him that the one essential element in every mixture was brains and without it no method would be successful.

In Memoriam

LANSING T. VEDDER, M. D.

Dr. Lansing T. Vedder was born in Niskayuna, N.Y., on September 24, 1859. His early education was received in the city schools of Schenectady and Union College. The degree of Doctor of Medicine was conferred upon him by the Albany Medical College in 1881.

He practiced for a short time in Niskayuna and then removed to Schenectady where soon came to him a large and remunerative practice. He was much esteemed by the physicians of the city who could not fail to recognize his ability and sterling worth. After a few years' practice in Schenectady Dr. Vedder spent a year in Germany and England in pursuit of knowledge, giving especial attention to the eye and throat.

Being always an ardent student it is thought that close attention to his work with a lack of wanted exercise gave an opportunity for the entrance of ever dreaded tuberculosis. Certain it is that soon after his return to Schenectady the disease developed to such an extent that in 1890 he gave up his practice and removed to Los Angeles, California, in search of health. After the lapse of two years he returned to his home enabled to again take up his work, although far from equal to the duties of an arduous profession. From this time on he gradually failed until realizing that his strength must soon give way he again sought relief in a southern climate.

In August 1898 he went to Albuquerque, N. M. For a time he seemed to improve but the change was taken too late and he realized that if he wished to see his friends at home he must hasten. He had overestimated his strength and died when the journey was half completed at Newton, Kansas, May 12, 1900.

Those who have known him intimately realize that we have lost one whom we are all better for having known. A particularly painstaking and careful physician, his work was thorough and successful. His thought was never for himself, ever for his friend.

C. F. C.

Medical News

Edited by H. Judson Lipes, M. D.

ALBANY HOSPITAL.—At a recent meeting of the governors of the Albany Hospital it was decided to return to the former plan of holding the meetings on Sunday, since the attendance on other days was always small. Reports on the progress of the work in "Pavilion E" were received. It was made known that the hospital had a financial incumbrance of $38,000 besides the sums needed for the ordinary running expenses of the institution. The legacy of Abraham Lansing amounting to $1,000 was recently received. The following responses to the annual appeal of the board of governors are acknowledged: previously acknowledged, $4,532; German Hospital Association, $250; Ladies' Auxiliary of German Hospital Association, $250; Anthony N. Brady, $100; Acors Rathbun, $100; Marcus T. Hun, $100; J. Howard King, $50; Mrs. Adeline P. Kidd, $50; Wm. McDonald, $50; James Gazeley, $25; John L. Godley, $25; A. Bleecker Banks, $25; William Van Antwerp, $25; J. L. Steefel, $25; Mrs. Mary Caldwell, $25; Misses MacNaughton, $20; E. J. Knowles, $15; George Wiley & Bro., $10; Thomas I. Van Antwerp, $10; Mrs. W. S. Egerton, $5; Cash, $5; total, $5,747.

ALBANY MEDICAL COLLEGE ALUMNI ASSOCIATION OF NEW ENGLAND.—An executive meeting of the New England Alumni Association was held at Hunt Memorial Hall, Hartford, Conn., March 18, 1900. The president, Dr. Crothers, occupied the chair. The secretary, Dr. Murphy, of East Hartford, reported on the list of names of the alumni of the Albany

Medical College in New England, and read some of the gratifying responses and letters from the old graduates showing hearty sympathy with the Association and desire to join the new Association. Dr. Ensign, of Berlin, moved that a summer meeting, with a dinner, be held in July. This was carried. The president formally invited the Association to meet at Walnut Lodge Hospital. This was accepted, and the date of the meeting left open for the committee to decide upon later. Dr. Holmes, of New Britain, moved that the officers of the Association, namely, the president, secretary, and treasurer, be appointed delegates to attend the annual meeting at Albany, May 2d. Carried. Drs. Crothers, O'Flaherty and Murphy accepted the appointment, and were requested to notify the president of the Alumni Association at Albany of their appointment. Dr. O'Flaherty moved that a membership fee of one dollar be collected from each alumnus to carry on current expenses. Carried. After luncheon social remarks were made. The meeting finally adjourned to meet at the call of the secretary for the summer meeting.

DR. SWINBURNE'S GRAVE DECORATED.—On Decoration Day appropriate services were held at the grave of Dr. Swinburne in the Albany Rural Cemetery by the Veteran Boys in Blue Club of Troy. Flowers were placed on the mounds of Dr. and Mrs. Swinburne. Comrade John H. Miller then spoke as follows: "Another year has rolled by and we have again been permitted by divine providence to assemble at the grave of our departed comrade, Dr. Swinburne, to decorate his grave with flowers. As we do this we are deeply grieved on account of his being taken away from this world's usefulness. Yet we ought not to question the doings of Him who rules the universe, but we believe that Comrade Swinburne's noble deeds ought to be commemorated for all time, for, I have no doubt, that in consequence of his intense patriotism and great medical skill many comrades' lives were saved. Fathers were enabled to return to their families, sons to their parents, brothers to their sisters, who, but for his skill, would have found a southern grave. We are also deeply grieved to know that there are scoundrels living to-day who are base enough to violate the wishes of so noble and good a man as our comrade was by stealing the flags which he had at great expense presented to our organization. All things which were given him to do during his life time were well done. The poor were welcome to his services without money or price, and who is more entitled to reverence. Echo answers, none. He has already answered the last roll call here on earth, and when finally the last trumpet of the archangel shall sound his body shall rise in glory, and he shall hear at the great judgment seat the words, 'Well done, good and faithful servant; enter into eternal rest.'"

APRIL BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.—After an average daily mortality for the first three months of the year of 382, that of April has risen to 416; the increase however began in March which had a daily mortality of 420. The daily rate for the first two months of the year was 362; of the last two, 418. Compared with the corresponding period of last year, the larger mortality then occurred in January and

February, which exceeded that of March and April at the rate of 50 deaths a day, which is less by six than the increase this year in March and April over the first two months. There were about 2,000 more deaths in the four months this year than last. The epidemic of *Grippe* of the present season began in December, during which month it was the reported cause of deaths and was estimated to have caused 600 deaths; it continued in January and 1,000 deaths were attributed to it. In February the daily deaths increased from 340 to 385 and those from acute respiratory diseases form 70 in January to 85; it may be estimated that 1,250 deaths occurred from grippe in February. In March there were 420 deaths daily and almost one-fourth of them, or 100 deaths a day, were from acute respiratory diseases, or 900 more than the average of the five preceding years. There have been but three months in the records of this Board in which the number of deaths from this group of diseases has exceeded that of March; in February, 1890, there were 3,847, in January, 1892, there were 3,800, and in April 1891, there were 4,357, or about one-third of the deaths from all causes These were months of the height of severe epidemics, and between 4,000 and 5,000 of the extraordinary mortality occurring in them was attributed to grippe. It may be estimated that 3,500 of the deaths of March were from this cause. The acute respiratory mortality of April was very little below that of March, 99 deaths daily, so that comparing the mortality from causes which are increased by this epidemic disease with the averages of those and other co-existing diseases (by which means only its prevalence can be computed since a comparatively small number are reported from it direct) it is estimated that in April there were 3,250 deaths from grippe. It has been unusually prolonged, since the acme of epidemics has seldom lasted at a high rate beyond one month. This has caused a remarkable mortality, amounting on the estimates made to almost 10,000 deaths since the onset of the epidemic in December last The largest number of deaths credited to one epidemic heretofore in this State was in 1891, when 8,000 occurred from it, likewise the same number in the year following. The subsequent years have been estimated to have had from 3,000 to 6,000 deaths in their annual recurrences of disease. Other groups of diseases increased have been the unclassified, which in the months of March and April exceed those of January and February by 500. Old age has been credited with 300 excess, and in many cases the deaths thus recorded were returned as due to grippe, occurring at quite advanced age. The enfeebled conditions of those placed in these two groups contributed to a fatal result from this disease. For a similar reason in part there were 400 more deaths from consumption, but March and April are commonly months of highest mortality from it.

JAHRBUCH FÜR KINDERHEILKUNDE — The year book for children's dis eases which has previously been published by B. G. Heubner, of Leipzig, has been sold to and will hereafter be published by S. Karger, Verlagsbuchhandlung, Berlin, N. W., Karlstrasse, 15, to whom all communications, and exchanges particularly, should be addressed.

THE BIBLIOGRAPHIA MEDICA (INDEX MEDICUS).—The ANNALS has received four issues of this valuable publication which is very complete and fully up to the standard of the *Index Medicus* previously published in this country. There is nothing for the most carping critic to find fault with. The subscription is moderate, $10 a year in France, and $12 in other countries, half the price of the *Index Medicus.* The editors are certainly to be congratulated on their most excellent achievement. France has succeeded in an undertaking where the English-speaking nations failed. The Bibliographia Medica is in every way a credit to both the editors and their publishers, and adds another leaf to the laurel wreath of the great French nation, a nation that has done much for medical science. The extraordinary and unique genius of the French mind for method and classification is conspicuously in evidence in the production of this periodical.

THE BARNARD MEDAL AWARD TO PROFESSOR ROENTGEN.—At the commencement exercises of the Columbia University this year, the award of the Barnard Medal will be made to Professor Roentgen, of the University of Wurzburg, for the discovery of the X ray. As the medal is, on the bequest of the late President Barnard, of Columbia, to be bestowed every five years on the person who during the preceding interval shall have made "the most important step in physical or astronomical science, or a novel application of science beneficial to the human race," there can be little doubt that Professor Roentgen has earned the distinction.

BETH ISRAEL HOSPITAL.—The corner stone of the new Beth Israel Hospital was laid on May 27, and among these who made addresses on the occasion were Drs. A. Jacobi and Zuisler and Charities Commissioner Keller. The present hospital situated on East Broadway, was founded in 1890. The new hospital is located in the heart of the East-Side tenement district, at the corner of Cherry and Jefferson streets, the most densely populated locality of America. The building will be five stories high and will have accommodation for over one hundred patients, in addition to ample dispensary facilities.

THE AMERICAN ACADEMY OF MEDICINE.—At the annual meeting of this Society, held at Atlantic City on June 2d and 4th, the following officers were elected to serve for the ensuing year: President, Dr. Samuel D. Risley, of Philadelphia; Vice-Presidents, Drs. C. M. Culver, Albany, N. Y., Rosa Engell, of Chicago, Ill., G. G. Groff, of San Juan, Porto Rico, Charles T. McClintock, of Detroit, Mich.; Secretary and Treasurer, Dr. Charles McIntyre, of Easton, Pa.;Assistant Secretary, Dr. Alexander R. Craig, of Columbia, Pa.

THE PAN-AMERICAN MEDICAL CONGRESS.—The international executive commission of the Pan-American Medical Congress announces that the third meeting of that body will be held in Havana, Cuba, on the 26th, 27th, 28th and 29th of December, 1900. The original intention was to hold the congress at Carocas, Venezuela, in December, 1899, but on account of the disturbed political conditions in that country the medical profession there advised that the meeting be postponed to December of this year, and now have requested that some other country be selected. The second congress of Cuban physicians, which was to have been held this year, will probably be postponed to some time in 1902.

The Roentgen Society of the United States.—In December. 1900, the first regular meeting of the Roentgen Society of the United States will be held in New York City. This Society has been but recently organized and is the only one of its kind in America. It is national in character and is represented by physicians, surgeons, dentists, and radiographers in the several states. The constitution is similar to those of the Roentgen Societies in Europe. The American X Ray Journal, St. Louis, Mo., is the official organ. This Society will be represented at the International Congress of Medical Electrology and Radiology, in Paris, by Dr. Price, of Cleveland, Ohio. The Secretary of the Society is J. Rudis-Jicinsky, of Cedar Rapids, Iowa. The President is Dr, Heber Robarts, of St. Louis.

American Electro-Therapeutic Association.—The tenth annual meeting of the American Electro-Therapeutic Association will be of unusual interest. It will be held on September 25th, 26th and 27th, 1900, at the Academy of Medicine, in New York City. The headquarters will be one block from the Academy, at the Hotel Bristol, corner of Fifth avenue and 42d street; American plan, at the reduced rate of $4 per day, "first come, first served." Rooms will be reserved by direct communication to the proprietor, or ordered by the committee of arrangement. The chairman of the committee of arrangement is Robert Newman, M. D., 148 West 73d street, New York City. The committee has made preliminary arrangements for the meeting for scientific and social pleasures, so that the members will be in continuous attendance from early in the morning until midnight, varying social pleasures with scientific matters. Many surprises are in contemplation and some have been positively arranged, as visits to the greatest electric enterprises in the world. All success is positively secured and assured. At this early date so many scientific papers have been announced that the members are earnestly requested to send in the titles of their intended papers at once to the chairman of the committee of arrangement, or to the secretary, as from present indications there will be more papers offered than the time will allow to be heard, and the earlier announcements must necessarily have the preference.

Deaths of Two Surgeons as the Result of Infection from the Same Wound.—It is rather an unusual coincidence for two surgeons to die as result of infection from the same wound, but such a case happened in Connecticut recently. Dr. Elbridge K. Leonard, of Rockville, Conn., called Dr. Melancthon Storrs, of Hartford, in consultation, and together they operated upon a patient for hepatic abscess. One week after the patient had succumbed from general septicæmia, Dr. Storrs died from blood poisoning and a few days after the death of Dr. Leonard occurred from the same cause. Both surgeons were eminent men and well known in medical circles.

"JACOBI NUMBER" OF PEDIATRICS.—"In sincere admiration of the long and fruitful professional life of Doctor Abraham Jacobi, and in commemoration of the attainment of his seventieth birthday, this issue of *Pediatrics* (June 1, 1900), has been called a Jacobi Number." The editor has two objects in view: one is the presentment to its readers of a permanent record of the notable birthday celebration recently given Dr. Jacobi; another is to commence the publication of all the articles on pediatric subjects written for the Jacobi "Festschrift." The papers it contained on the subject mentioned are of great value, so great that it will be no small service to the profession at large that they should be given a wider publicity than the limited edition of the original volume will admit.

THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.—Under the presidency of Col. Charles H. Alden, of the Army Medical Corps, the ninth annual session of this Association was held in New York City in the Academy of Medicine on May 31st and June 1st and 2d. The address of welcome was made by Dr. Albert H. Briggs, of Buffalo, major and surgeon of the Sixty-fifth New York Regiment. In his presidential address Dr. Alden suggested the advisability of the publication of a medico-military journal under the auspices of the Association. A committee was appointed to take steps toward the establishment of such a journal. The award of the gold medal offered by Dr. Eno Sanders, of St. Louis, for the best essay on "Military Surgery" was made to Captain A. C. Borden, Assistant Surgeon, U. S. A. Major Narciso del Rio, surgeon in the Mexican army and delegate from that government and Colonel-Surgeon W. McWalters, of the British army, were present. The following officers were elected: President, Brig.-Gen. A. J. Stone, of Minnesota; First Vice-President, Medical Inspector John G. Wise, of Washington, D. C.; Second Vice-President, J. F. Caleb, of Connecticut; Secretary, Col. Charles Adams, of Illinois; Treasurer, Lieut. Herbert A. Arnold, of Pennsylvania. St. Paul, Minn., was selected as the next place of meeting. A motion was made and adopted that all ex-surgeons of the Civil War, both Federals and Confederates, be eligible for membership in the Association.

THE NEW MEDICAL LAW OF OHIO.—The new law, just passed, which regulates the practice of medicine in Ohio went into effect July 1st. This law does not differ essentially from those already in force in other states, including New York, Pennsylvania, Illinois, Iowa, Minnesota, North Carolina, Virginia and many others, but it contains some novel and valuable features. Among other things, it provides that persons desiring to enter upon the study of medicine in Ohio must possess a good general education to be shown by the possession of a diploma or certificate from a high school, college, or some other recognized source, or by passing a preliminary examination to be held by the State Medical Board of Registration and examination in Cincinnati, Columbus, Cleveland or Toledo, this examination to occur at the same date and consist of the same questions for all. After graduation from a medical school, every person desiring to practice in the state must undergo an examination in anatomy, physiology, pathology, chemistry, materia medica and therapeutics, the principles and practice of medicine, surgery, obstetrics and such other subjects as the Board may require. Only graduates of schools which require four years of professional study, preceded by the designated amount of preliminary education may be admitted to this examination. By the energetic lobbying of the Ohio medical students, some 1,300 in number, who have already matriculated in the medical schools of the state, they will be exempted from this examination; so that graduates of the Ohio schools will not come under the full provisions of the law until 1904. Another provision is a reciprocity clause by which the certificates issued by other state examining boards to medical practitioners may be recognized in Ohio, providing the requirements of these boards are equivalent to those enforced by the Ohio examiners, and providing also, that these other states extend the same privileges to Ohio licensees. The law now gives official recognition to osteopathy by requiring an examination which shall test the knowledge of applicants of this school, in anatomy, physiology, chemistry and physical diagnosis.

DEATH OF DR. E. O. SHAKESPEARE.—Dr. Shakespeare, of Philadelphia, died suddenly June 1st at the age of fifty-four. He graduated from the University of Pennsylvania and was connected with the Medical Department of the University as assistant at the eye clinic and lecturer on operative eye surgery. He was also during his life President of the Pathological Society of Philadelphia, pathological and ophthalmic surgeon to the Philadelphia hospital, a member of the College of Physicians of Philadelphia, of the American Medical Association, and was President of the section of pathology in the International Medical Congress. In 1885 he was commissioned by President Cleveland to investigate the Asiatic cholera in Europe and India and he spent a year on that work. During the war with Spain Dr. Shakespeare was appointed a brigade surgeon, with the rank of major of volunteers, and at the time of his death he was acting as a member of the commission attached to the office of the Surgeon-General at Washington to investigate the causes of typhoid fever in the United States army.

DEATH OF DR. FESSENDEN N. OTIS.—Dr. Fessenden N. Otis died on Thursday, May 24, in New Orleans, at the age of seventy-five years. He was born in Ballston Spa, N. Y., on March 6, 1825, and was graduated in arts from Union College. His medical degree was conferred by the New York Medical College in 1852, and in 1876 he received the honorary M. D. from the College of Physicians and Surgeons of New York City. After serving a year at Blackwell's Island Hospital he passed some years as surgeon on vessels of the United States and Pacific Mail Steamship Companies, and was later superintending surgeon on shore of the Pacific Mail Company. In 1862 he was appointed a police surgeon, and was President of the medical board of the police department for several years. In 1862 he was appointed lecturer on diseases of the genito-urinary organs at the

College of Physicians and Surgeons, and clinical professor in the same branch in 1871. He was also connected at various times with many dispensaries and hospitals in New York City. Early in his medical career Dr. Otis turned his attention to diseases of the genito-urinary system, and his labors and teachings contributed much to the advancement of this specialty. His views regarding the normal calibre of the male urethra were thought extravagant at the time they were first propounded. He was the inventor of many urethral instruments, and was the author of many papers and works on genito-urinary diseases and syphilis. Ten years ago Dr. Otis resigned his medical positions and retired from practice, travelling for a long time in Japan and in the far East. He never lost his interest in medicine, however, and used frequently, while in New Orleans, to attend the clinical lectures at the Charity Hospital in that city.

PERSONAL. — MARRIED: VANDER VEER—WOOSTER. At the First Presterian Church, Albany, N. Y., June 5, 1900, Miss Harriet Wooster, daughter of Mrs. Benjamin W. Wooster, to Dr. Edgar Albert Vander Veer (A. M. C. '99). After a short wedding trip Dr. and Mrs. Vander Veer will return to Albany, where the Doctor is already well established in his practice.

—PARSONS — EMERSON. At Northampton, Mass., Thursday, June 21 1900, Dr. Payn Bigelow Parsons (A. M. C. 1897) and Miss Ella Mae Emerson.

—DR. AUGUST J. LARTIGAU, formerly of the Bender Hygienic Laboratory, has been awarded the Alonzo Clark scholarship at Columbia College.

—DR. ROBERT B. LAMB (A. M. C. '91), for several years assistant physician at the Matteawan State Hospital, has been appointed Medical Superintendent of the Dannemora State Hospital for Insane Convicts at Dannemora, N. Y.

—DR. SAMUEL G. GANT, recently elected professor of rectal and anal surgery in the Post Graduate Medical School and Hospital, has removed from Kansas City, Mo., to No. 58 West 56th street, New York City.

Current Medical Literature

MEDICINE

Edited by Samuel B. Ward, M. D.

Prophylactic Measures Against Diphtheria.—GABRITSCHEWSKY in the *Centralblatt für Bakteriologie*, volume 26, number 16 and 17, gives some statistics of diphtheria in Russia. He states that notwithstanding the great progress that has been made in abating this disease as a result of more careful bacteriological examinations, and the use of antitoxine, that it is still one of the greatest causes of mortality in Russia. In the whole of Russia the morbidity of this disease has increased from 113,989 cases in 1887 to 228,063 in 1897, while the mortality has sunk from thirty-three and four-tenths per cent. in 1887 to eleven and eight-tenths per cent. in 1897, though this latter figure is somewhat too low. In the city of Moscow the morbidity from croup has increased from 1636 cases in 1890 to 3069 cases in 1898, whilst the mortality has sunk from forty-six and four-tenths per cent. in 1890 to twenty-two and eight-tenths per cent. in 1898. In St. Petersburg the morbidity of diphtheria has increased from 859 cases in 1886 to 5613 cases in 1898, whilst the mortality has decreased from forty-eight and nine-tenths per cent. in 1886 to twenty-four and eight-tenths per cent. in 1898.

Gabritschewsky thinks that this is a favorable indication that the disease could be much more limited if prophylactic as well as therapeutic measures were employed. As a result of his investigations he formulates the following rules:

1. The bacteriological examination of the mucus from the mouth, throat and nose shall not only be used as a diagnostic method in diseased individuals, but also as a prophylactic measure in healthy people who may have been exposed to diphtheria.
2. Infected people when they are perfectly healthy, and such a possibility has been made certain by bacteriological examination, should undergo the following rules: isolation and disinfection as in people sick with diphtheria.
3. Diphtheria patients should not be allowed to be removed from hospital until the Loeffler's bacilli have entirely disappeared.
4. In asylums, institutions, and large families, a routine yearly examination, preferably at the beginning of spring, should be made of the mouth, nose and throat for the presence of diphtheria bacilli.
5. The disinfection of rooms, and other infective articles after cases of diphtheria should not be carried out until all traces of the diphtheria bacilli have disappeared, both from the healthy and the diseased.

[The habitual use of the prophylactic dose of antitoxine in case of each exposed person would probably be as useful as any of the above precautions—possibly as all of them combined.—S. B. W.]

Acidity.—In an address delivered before the Reading Pathological Society Dr. JAMES F. GOODHART (*Lancet, January 6, 1900*) refers to his well known opinions upon the subject of uric acid, and recites some unusual cases of peculiar wandering neuritic pains and disturbances of digestion. In some instances the dietary of the victim had been faultless, as far as the usually accepted theories of the origin of acidity are involved, and the writer has been led to the conclusion that in the majority of cases there is practically no question of diet at all. In one abstemious patient relief followed the ingestion of a very liberal variety of food, including meat thrice daily and wine, the good result apparently having been attributable to the change, rather than the character of the food. Dr. Goodhart believes that if urea-forming products are absolutely excluded from diet the human economy will continue to excrete uric acid, which is really an end-product common to the many metabolic processes going on in the body. No routine prescription as to food and drink can be ordered indiscriminately, and if it be decided that the latter is needed, "let the young man drink his beer, the middle-aged his wine, and the old man his toddy." Free water-drinking performs a more difficult task than merely washing out sand from the passages, it softens and disintegrates small calculi. The free use of water, with the climatic changes and the relief from occupation, is the important factor in the treatment at the spas. In conclusion, the fault is not in the uric acid, but rather in the subject: in one case the cause may be the visceral sluggishness that is the common outcome of nervous exhaustion; in another, the hereditary condition, whatever it may be; in another a great or sudden shock, a great anxiety, and exhausting attack of illness; in another some defect in the kidney; and finally, this condition may be an indication of the approach of age, and of the failure of the organism to accommodate itself to various changes of its environment, which is one of the chief distinctions between healthy youth and age, and here may be the additional factor of involution changes in the coats of the arteries.

OBSTETRICS, GYNÆCOLOGY AND PÆDIATRICS

Edited by James P. Boyd, M. D.

Air Emboli in Placenta Praevia.—By Dr. Hubl. (*Wien. klin. Woch., February 1, 1900.*) The question of air emboli is much better understood to-day than formerly. The views generally held may be summarized as follows:

1st. If so much air finds its way into the veins that the right heart is filled with air, the propulsion force of the heart is transformed into a compression force and sudden death results.

2nd. If only a small quantity of air finds its way into the veins then there occurs a mixture of blood and air in the right side of the heart. The propulsion force of the heart is only partially transformed into a compression force and circulation of the blood is still possible.

The question of the circulation depends upon the power of the heart, and the air may be driven into different parts of the body, and has been found in the vessels of the lungs, the coronary arteries, the arteries of the brain and of the chord. Fatal cases of air emboli may be divided into the acute and protracted. Most of the work connected with air emboli in placenta praevia has been done in Olshausen's clinic where the first cases were described. Very few cases of this condition have been reported.

The writer reports two cases. The first was one of sudden death during delivery. The autopsy performed by Kolisko showed that the right heart was much distended with air, and contained but a few drops of fluid blood. The second case was one of death from protracted air embolism in which the patient died fourteen hours after delivery. An autopsy was not obtained. The writer believes that a diagnosis of death of this kind can be made

1st. By the exclusion of other possibilities.

2nd. By the presence of splashing sound in the heart and a tympanitic note over the heart.

3rd. The existence of an opportunity for the air to find its way into the uterine veins.

The writer believes that in the first place the lessening of the abdominal pressure may allow the air to be drawn into the open veins, and secondly that the pressure of the contracting uterus upon air contained in the cavity may force this air into the uterine veins.

Nephritis Without Albuminuria in Young Children.—By Dr. CASSEL. (*Berl. klin. Woch., March 5, 1900.*) The writer has observed a considerable number of cases of extensive dropsy in children without the existence of any direct etiological factors, and without the presence of albumin in the urine. He reports nine cases of children varying from seven weeks to two and one-half years of age, in which clinically there were a well marked dropsical condition of the face and extremities, and in three cases ascites. In five of these nine cases an acute or sub-acute disturbance of digestion preceded the dropsical condition. Scarlet fever could be excluded in all of the cases. In four of the nine cases recovery followed after four to six weeks. In two cases the result was unknown, and in three cases death ensued. The urine in all of the cases was of normal quantity, pale, acid, and did not contain any albumin or casts. Two of the three cases that died came to autopsy, and in the first case there was found to be a well marked nephritis of a parenchymatous character. In the second case there was a very slight nephritis.

The writer reviews the subject of nephritis without the characteristic urinary signs, and from the literature has collected a considerable number of cases, in which during life the urine showed no signs of nephritis, but at autopsy well marked kidney lesions were found. Such cases have been known to follow, in addition to the more acute and severe exanthemata, varicella, measles and typhoid fever. In addition to this large group of cases of nephritis with albuminuria the writer believes that there is also a considerable number of cases in which a dropsical condition without any urinary signs results from intestinal catarrh in young children, and in these cases at autopsy one usually finds more or less marked nephritis.

Filatow believes that there are cases of idiopathic anasarca in children without nephritis, due to the action of some toxine upon the walls of the capillaries, as well as upon the heart, leading to an accumulation of serous fluid in the tissues or cavities of the body, and in no way associated with nephritis. Prognosis in these cases appears in general to be fairly favorable.

A Case of Congenital Macrodactylism.—By F. L. TAYLOR (*Pediatrics*, December 1, 1899.) The patient was a baby eight months old, healthy and well formed except for the enormous enlargement of the index and middle fingers of the right hand and an excessive deposit of adipose tissue at their bases, particularly on the dorsal aspect. The mother stated that the deformity had existed since birth. The middle finger was as large as that of an adult male, its first phalanx being almost as long as the adjoining ring finger. The middle finger was quite useless, while the index finger could be almost fully flexed and extended. The only limitation to its function was at the last inter-phalangeal joint. The index finger was not quite so large as the middle and not parallel with the other fingers, being apparently pushed out of line by the hypertrophy of its neighbor. The other digits were normal in size, form and function. The skiagraph showed symmetrical enlargement of the phalanges of the second and third fingers. The author on examining the epiphyses of the affected fingers found that they had not as yet joined the shafts so that there was little chance of spontaneous arrest of growth, and as the middle finger was useless and interfered with the forefinger, he amputated the former at the metacarpo-phalangeal joint. He hoped in this way to bring the forefinger back into line and so improve the function and appearance of the hand. This anticipation was in a measure realized by the operation.

NEUROLOGY

Edited by Henry Hun, M. D.

Recklinghausen's Disease.—Levy and Ovize, in the *Gazette des Hopitaux for the 11th of November, 1899,* give a careful review of the subject of generalized neurofibromatosis or Recklinghausen's disease. They describe it as a syndrome presenting as its three main symptoms tumors of the skin, tumors of the nerves and areas of pigmentation. There are also present in many cases a group of functional symptoms consisting of cramp-like pains in the limbs, disturbances of gait, sensory troubles, diminished cerebral power and cachexia. After reviewing the history of the disease they carefully review the etiology and its relation to other diseases. They show that in a number of cases the malady is congenital, that it may be hereditary and in some instances occurs in several children of the same family. It may appear at any time from birth up to the age of eighty-one years. Cold and infections such as measles, diphtheria, etc., seem at times to favor its development. There seems to be a relation between this disease and tuberculosis. Many of the subjects of neurofibromatosis die of tuberculosis and very often there is a history of tuberculosis in the family. The three main symptoms have already been mentioned. The tumors of the skin vary considerably in number, may reach as many as three thousand. They may be so small as to be only appreciable by palpation but as a rule average in size from a grain of corn to a nut. They are found all over the body; though as a rule the palms and sole and the genitals are exempt. Tumors are generally rather soft and painless. In some instances there is one very large tumor which has been spoken of as the major tumor or the royal tumor. The tumors of the nerves cannot be seen but must be palpated. They are felt as small nodules along the course of the nerves which can be moved laterally, but not in the direction in which the nerve fiber runs. They may be found on any nerve and have been seen on the pneumogastric and even upon the spinal cord and its ganglia. These tumors may be sensitive or not.

The pigmentation of the skin may exist from the time of the birth in the form of nævi or may come on later in the form of areas of pigmentation. Pigmentation may occur as punctiform areas of a light brown color of about the size of a pin-head and occuring on the neck, trunk or members, or as streaks of pigmentation varying from a coffee color to a brownish red color. These areas often run as streaks which are horizontal or oblique on the trunk, vertical on the limbs. Sometimes they occur along the track of the nerve. The mucous membranes are never pigmented. The functional troubles are inconstant, the motor troubles occur as asthenia, as hysterical attacks, nystagmus or as ataxia. The sensory troubles are more constant and take the form of cramps or lancinating pains. Objectively there may be anæsthesia or thermic analgesia. Sexual frigidity exists in half the cases. Some of the patients show an intellectual depression or a torpor which may resemble that of Addison's disease. The disease may run a very chronic course and is in fact habitually of long duration. Death usually occurs from tuberculosis or from sarcomatous degeneration of some of the tumors. In some cases death is due to increasing weakness without any other appreciable cause.

With regard to the prognosis it may be said that the patient does not die of neurofibromatosis but with neurofibromatosis. The prognosis is good, in other words, until secondary diseases appear. With regard to the treatment little can be done, beyond general symptomatic treatment. Surgical intervention is contra-indicated, except where the tumors have undergone sarcomatous degeneration. Though there are numerous hypotheses to account for this disease none of them are satisfactory. The tumors are of the nature of fibromata, being made up of ordinary connective tissue, but containing as a rule nerve fibre. At times the tumors take the form of plexiform neurofibromata.

OPHTHALMOLOGY

Edited by C. M. Culver, M. D

Is There a "Hypermetropia Acquisita?"—In the *Transactions of the American Ophthalmological Society* for 1899 is published an article by Dr. B. Alexander Randall, of Philadelphia, having the above question for its title. He notes the time-honored tradition, fathered by Donders and perpetuated by Landolt, that acquired hyperopia exists, says he has often called into question these views and, in this article, explicitly challenges their correctness and asks the production of any competent evidence in their support. Myopia does become less troublesome as age advances, probably because desire for keen, distant vision lessens as bodily activity declines and because of the optical fact that the progressive narrowing of the pupil cuts off, more and more, the aberrant rays and tends to give, habitually, the keener acuteness of vision that any myope can, *ceteris paribus*, obtain in a good light, through a pin-hole. Landolt's explanatory changes in the refraction-index of the lens-layers is pronounced as hypothetical and devoid of scientific basis as the more popular view of the causative (of acquired hyperopia) flattening of the cornea.

The known changes in the crystalline lens, between the ages of fifty-five and eighty, are in favor of increase rather than diminution of myopia. Jaeger and Priestly Smith have shown that the lens continues to grow throughout life. Donders' claim to have observed acquired hyperopia, clinically, deserves respectful consideration; but this was an early statement and it can hardly be assumed that he was then sure of its validity. The most nearly certain way in which to decide for or against the existence of acquired hyperopia is to use cycloplegics. These are more used in Philadelphia than anywhere else. Their value and frequent necessity have been amply shown; but so, too, has their fallibility. While there is no more exact method of examination for the discovery of refractory errors, there are instances of finding less myopia or more hyperopia, without the aid of cycloplegics, than was found, only a short time before, when one had been vigorously used. Dr. Randall questions if there be trustworthy data for the assumption of the existence of hyperopia acquisita and declares the evidence of it is far from satisfying. He ascribes to faulty measurements the apparent decrease of refraction in young or old.

Chronic Glaucoma, with Special Reference to the Visual Field.—In the October number of the *Annals of Ophthalmology*, DR. DE SCHWEINITZ writes on this subject. It is illustrated by forty five pertinent cuts and concludes as follows :

(1) That while it is true that in typical cases of chronic glaucoma the nasal half of the field is earliest and most severely affected, this is by no means a constant occurrence, for if an average field of a large number of measurements is constructed, there will result a map which indicates general restriction, rather than restriction in any one direction, in this respect the observations being in accord with those of Zentmayer and Posey.

(2) That the color field is often more contracted proportionately than the form field, and that to attempt a differential diagnosis between simple atrophy and chronic glaucoma by an examination of the color field is not likely to lead to trustworthy results; again an observation in accord with those of Zentmayer and Posey.

(3) That scotomas are often found in cases of well-advanced chronic glaucoma, which may be ring-shaped, crescentic, paracentral or disseminated, and moreover, that these scotomas may be found by ordinary perimetric methods if care is taken to investigate each meridian and to use suitable test objects under varying degrees of illumination.

(4) That it is reasonable to assume with Bjerrum that the scotomatous defects are usually the result of the destruction of the fibres of the papilla at the margin or sides of the excavation, although it may be that some scotomas, especially ring-shaped scotomas, should be accounted for by changes in the inner retinal layers.

(5) That these scotomas are topographically different from those which occur in simple atrophy and may be utilized as a differential test between the two conditions, as Bjerrum has already pointed out.

(6) That it is evident that in many instances the scotomas are the fore runners of large defects in the visual field, the scotoma "breaking through," as it were, until the darkened area reaches the limit of the form field in the periphery.

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SURGICAL OPERATIONS IN HOSPITALS FOR THE INSANE.*

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It is not my intention in this paper to present any new theories regarding the treatment of insanity. It is rather my purpose to call attention to the abundance of opportunities which our hospitals for the insane offer for such surgical work as will promote the comfort and well-being of the patients.

The available literature concerning surgery for the direct or reflex relief of mental conditions is copious, and many of the cases reported are of extreme interest. It is a prudent caution, however, to bear in mind that those who undertake a special line of work, whether in medicine, surgery or any other science, are apt to become enthusiasts and to draw conclusions oftentimes from insufficient data.

The fact that the symptom group commonly classed under the general designation of insanity is after all a physical disease, makes it highly important for all physicians who treat mental alienations, to consider well the physical condition of their patients and to correct such physical defects as militate against their recovery or comfort. And such being the case, there is no more reason why conditions calling for surgical measures should not be examined into among the insane and the necessary relief given wherever indicated, than why pneumonia in an insane person should not be treated *secundum artem.* In a case of appendicitis the insanity of the subject does not preclude operative interference; then why should it in a case of ovarian cyst or a case of pyosalpinx? We maintain that both science and humanity demand the exercise of all the skill of the physician, not only in the direct treatment of mental disease, but also in the relief of all associated bodily ailments; and hence we hold that the patient should have the benefits as well of such surgical measures as may be called for, as of the most careful medical examination and treatment.

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*Read before the Medical Society of the State of New York, January 31, 1900, and the American Medico-Psychological Society at the annual meeting at Richmond, Va., May 22, 1900.

In considering surgical operations in hospitals for the insane I do not wish to be understood as using this term synonymously with brain surgery; for in brain surgery the field is limited and, except in a few instances, but little is to be hoped for so far as mental recoveries are concerned. I rather make use of this term as embracing all surgical procedure which may add to the comfort of insane patients, whether it holds out much hope for their mental relief or not.

Now in treating of this subject I will simply endeavor to bear personal testimony to the results, sometimes unexpected, obtained by surgical measures in a hospital for the insane. And I will preface this short review of the surgical work performed at the St. Lawrence State Hospital with stating that the results have been made possible: first, by the liberality of the State in equipping our hospital buildings with special operating rooms; second, by the possession of trained physicians, many of whom have had general hospital opportunities and training in surgical technique; third, by the advantages which resulted from consultation with surgeons and specialists in the immediate vicinity of the hospital; and fourth, by the fact that the nurses now employed in state hospitals for the insane are carefully trained, not only in mental, but also in general nursing. Insane subjects are oftentimes disturbed and refractory; and therefore to fix a part and maintain proper dressings we have to resort to some form of surgical restraint, such as a protection sheet or camisole. Now it is in these very cases that a nurse specially trained in a hospital for the insane is of particular value; for while knowing how to properly manage a refractory patient, such a nurse also understands how to deal with the general problems of surgical nursing.

It is not unusual to find that insane patients, while convalescing from surgical operations, at times give evidence of mental improvement, going on in some cases even to complete recovery, and this in instances where the latter result could hardly be expected. Sometimes this outcome may be due to the shock of the operation; in other cases the mental effect which the operation itself produces in the subject, is to be credited with the mental improvement, the explanation being that "we substitute a healthy for an unhealthy mental introspection;" while in still others the increased personal attention received after the operation together with the changed environment forms the medium through which mental improvement results.

Now having prefaced so much, I shall go on to enumerate certain instances from my personal experience. And to begin with, a practical example of an unexpected but happy mental result following upon a surgical operation may be found in the case of a former patient of mine at the Utica State Hospital:

Case 1.—Woman; admitted to the institution on August 31, 1894; suffering from a second attack of acute melancholia of two months' duration, the ascribed cause being grief and worry. Shortly after admission it was found that she had a uterine fibroid which had been partially expelled from the uterus and was occupying a portion of the vaginal canal. Her condition therefore naturally called for immediate relief. Almost directly after the removal of the fibroid the patient began to improve both mentally and physically, and within two and a half months from the time of her admission she had regained her former health and was discharged recovered. Her previous attack of insanity had been of much longer duration, and improvement in that instance only began after a residence of several months in the hospital.

I may cite another instance which has previously been reported by Babcock:

Case 2.—Man; admitted the St. Lawrence State Hospital on August 21, 1896; suffering from acute mania of several weeks' duration; a sailor by occupation; forty-three years of age; and had a defective family history. His father had been intemperate and died insane and one sister had committed suicide. Furthermore the patient himself was intemperate and dissolute and had suffered from specific disease when twenty-three years old. His face and head were symmetrical, and his right sterno-cleido-mastoid muscle was greatly contracted so as to entirely prevent rotation of the head to the right. In other respects his physical health was good. He suffered from this condition of torticollis for twenty-five years, and for several months after his admission to the hospital he continued disturbed and delusional. Not quite four months from the time of his admission an effort was made to correct his deformity. The right sterno-cleido-mastoid was divided near the point of its attachment to the clavicle and sternum. The head and shoulders were fixed in a plaster cast and jacket which were kept on for five weeks. Then the stitches were removed and the wound dressed through fenestra. Following the operation, and as a result apparently of enforced rest changed surroundings and good nursing, the patient's mental condition quite unexpectedly began to improve, so that by the time the cast was removed he had become quiet and orderly and had abandoned his delusions. This mental improvement continued steadily, and four months after the operation he was discharged from the hospital recovered. At the time of discharge his head, which had been at an angle of thirty degrees formerly, was within two or three degrees of the median line; and rotation to the right, which had been quite impossible, was nearly as easy as rotation to the left.

A glance at the hospital records for about three and a half years past shows that during that period no less than 189 operations have been performed. The commonest of these is the operation of lumbar puncture, as this alone has been performed seventy-seven times. Paracentesis of the spinal dura was first employed in 1891 for the relief of hydrocephalus; later on it was suggested for trial in tubercular meningitis, and has since been advocated as of diagnostic importance in cases of tubercular and purulent meningitis.

So far as can be learned, the first lumbar puncture in this country in cases of general paresis was performed by Babcock at the St. Lawrence State Hospital in May, 1896. Since that time Dr. Babcock has operated upon many individuals, and he is convinced: first, that this operation affords temporary relief from pressure in more than fifty per cent. of the cases operated on; second, that ataxia is oftentimes relieved by it; and third, that the operation presents diagnostic possibilities. This prosedure may also be of diagnostic aid in tabes dorsalis. The following case, which has previously been reported by Dr. Babcock, illustrates this point very well.

Case 3.—Man; thirty-two years of age; single; admitted to the hospital on October 12, 1898; suffering from sub-acute mania of five months' duration. Eight months prior to admission he sustained a Pott's fracture of the left leg, and while recovering from this he fractured his right leg. When brought to the hospital he was on crutches and in a rather reduced physical condition. Ten years before he had contracted syphilis, which had never been treated. He had also been intemperate and given to venereal excesses. The initial examination disclosed complete reflex iridoplegia with loss of patellar reflexes. He seemed to have no lightning pains, and no sensory subjective symptoms common to tabes were present, excepting constant cephalalgia; nevertheless, as locomotor ataxia was suspected, lumbar puncture was performed about two weeks after admission. Fluid was obtained to the amount of ninety cc., and twenty-four hours after the operation the subject complained of lightning pains, which later on became so severe as to call for medicinal relief. Still later on his lower limbs became anesthetic, while scattered areas of cutaneous anesthesia were visible on the trunk. The headache disappeared after his first sleep. The pupillary and patellar reflexes were still non-responsive. Bladder symptoms and attacks of gastric crises soon appeared. The immediate effect of the operation was to precipitate the patient from an ataxic to a paralytic condition; and this caused some anxiety. But he slowly regained the partial use of his extremities, and three weeks after the operation he was as comfortable as he had been prior to it, save that occasionally he felt lightning pains. At the present time he has all the cardinal symptoms of locomotor ataxia.

Not alone as a matter of interest, but also to indicate the wide field for surgical work which the state hospitals for the insane afford, I append the following list of operations performed at the St. Lawrence State Hospital:

Amputation of leg
Amputation of toe
Amputation of finger
Amputation of foot
Celiotomy for peritonitis
Cataract (removal)
Deep lumbar abscess (opened and drained)
Dacryo-cystitis (sac removed)
Entero-anastomosis

Exsection of sciatic nerve
Hemorrhoids (removal)
Hydrocele (aspiration)
Hydrocele (removal of sac)
Hepatic abscess (opened and drained)
Hernia (radical operation)
Hip joint abscess (opened and drained)
Hysterectomy
Iridectomy
Laparotomy for appendicitis
Laparotomy (exploratory)
Phimosis (circumcision)
Paracentesis of pleura
Paracentesis of abdomen
Pterygium (removal)
Removal of Fallopian tubes
Removal of ovary
Removal of tonsils
Removal of cystic kidney (nephrectomy)
Removal of tubercular cervical glands
Removal of osteo-sarcoma of face
Removal of uterine polypi
Removal of lipoma
Resection of ribs
Resection of vas deferens
Resection of meta-carpal bones
Strabismus (strabotomy)
Skin grafting
Tuberculosis of knee (opened and drained)
Trephining
Torticollis (radical operation)
Varicocele (ligature)
Venesection

Among these operations the following would seem to be of particular interest:

I. Exsection of sciatic nerve:

Case 4.—In this case the terminal end of the sciatic nerve was involved in the cicatrix of an amputation stump, and the intense neuralgic pain in it called vigorously for operation. Two inches of the nerve was removed therefore about eight inches above the stump, and with excellent results, as the pain ceased entirely.

II. Radical operations for hernia:—These operations were always performed with the dominant idea of promoting the comfort and usefulness of the subject. Twenty-four patients in all have undergone this operation. Of these one suffered from femoral, two from direct inguinal, and the remaining twenty-one from indirect inguinal hernia. Several of the indirect inguinal hernias were double, and the usual percentage of congenital hernias was found. In one instance the sac contained an enormous amount of omentum and an undescended testicle. A physical examination of as many of the twenty-four subjects as still remain in the hospital. shows that only two of these have relapsed since the operation. On the other hand several patients who before surgical treatment had been physically incapacitated for manual labor, have since become good workers, and are far happier for being occupied than they formerly had been. The results obtained in some of these cases seem worthy of being recorded:

Case 5.—Man; twenty-four years of age; single; by occupation a laborer; was admitted to the hospital on January 15, 1898, suffering from melancholia. His depression was tinged with marked hypochondria, referable to a double inguinal hernia and imaginary varicoceles. After his admission he improved slowly, the depression disappeared, but the hypochondria remained unchanged. Six months after admission Bassini's operation for radical cure was performed. The convalescence was uneventful. From that time on the patient did not refer to his supposed sexual weakness or imaginary varicoceles. He continued steadily to improve and on April 26, 1899, was discharged recovered. In this instance the mental depression responded to the usual treatment; but the hypochondria remained until the operation, and it was apparently as a result of the operation that it eventually disappeared.

Case 6.—Man; forty-eight years of age; by occupation a laborer; was admitted to the hospital on April 7, 1899, suffering from agitated melancholia. At the time of admission many of his delusions centered about a double inguinal hernia of moderate size; thus he thought that this hernia prevented his bowels from moving, that the contents of his abdomen were gradually dropping out, and that all this would soon result in his death. As soon as the man's general health had been built up, an operation was performed for the radical cure of his hernia, and with very happy results. Convalescence from the operation was rapid. The subject became brighter, was less depressed, and at the end of a month was up and about the ward, free from agitation and without the delusions referable to his hernias. He has made still further mental improvement since then. This patient is still under treatment, and he has a fair chance of ultimate recovery.

I will next subjoin two instances in which patients who had been very noisy and untidy, became through surgical treatment quiet, neat and industrious.

Case 7.—Man; fifty-five years of age; suffering from terminal dementia of long standing. He was restless, untidy, idle and even somewhat destructive. The operation on his hernia was performed three years ago, and soon after it he began to improve in his habits. He grew to be quiet, industrious and trustworthy to such an extent that he could be granted parole of the hospital grounds. On fine days he works out of doors and he has such a measure of comfort afforded him as was quite unattainable before the operation was performed.

Case 8.—Man; fifty years of age; suffering from terminal dementia of several years' duration. He was dull, full of delusions, untidy, irritable and inclined to make unprovoked assaults. He was operated upon three years ago for the cure of a large left inguinal hernia; and shortly after the operation he became quiet and agreeable, and asked to be set to work. He has been given employment in the laundry, and is quite industrious and happy.

III. Resection of Vas Deferens:—The following case very well illustrates the fact that a pyhsical infirmity will sometimes produce an acute psychosis by causing loss of sleep, and that on the other hand the removal of the pathological condition will result in recovery from the psychosis.

Case 9.—Man; sixty-five years of age; by occupation a farmer; was admitted to the hospital on February 18, 1899, suffering from acute insanity of a maniacal type. The man's physical health was feeble; and aggravated cystitis due to prostatic hypertrophy and causing a marked loss of sleep, made the case a more complicated one. This trouble was treated at first with the usual remedies, and by irrigation, but without benefit to either cystitis or mental condition. The patient's bladder was so irritable that he had to rise from twelve to eighteen times each night; and as this prevented him from obtaining sufficient sleep, it undoubtedly added much to his mental disturbance. It was four weeks after his admission to the hospital that the operation was performed. Both the right and left vasa deferentia were resected in the hope that his prostatic trouble might be alleviated. The operation was quite successful, for in a month's time the prostate had diminished nearly one-half in size. During this time the bladder was carefully irrigated, and the patient had but little difficulty in emptying it having to rise only twice each night. As soon as he was able to obtain a reasonable amount of sleep, mental improvement began, and this continued steadily until the summer of 1899, when he was discharged from the hospital completely cured.

IV. Trephining:—This procedure is not often available for the relief of insanity. There are a few instances, however, where the morbid mental condition may be traced to trauma, abscess, tumor or other gross pathological conditions; and in these instances the advisability of trephining may be considered. In the case appended a good recovery resulted from the operation.

Case 10.—Man; thirty-eight years of age; by occupation a bookkeeper; was admitted to the institution on September 6, 1897. He was suffering from melancholia of several months' duration, which was said to be due to overwork; and in addition he had localized chorea, which resulted according to his physician from cortical apoplexy. This was limited to the left hand and foot, and disagreeable subjective paresthesic symptoms accompanied it. While the patient was awake the movements were constant, and they were only partially under the control of his will. They had antedated his insanity by as much as three or four years. At the time of his admission to the hospital the man's physical health was fair, but his melancholia was accompanied with hypochondria and some neurasthenia. He also had a double inguinal hernia, while he occasionally suffered from mental confusion, lapse of memory, headache and persistent insomnia. Soon after his admission an operation was performed for the radical cure of the hernia. As a result of the relief obtained from this operation, his hypochondria disappeared and his mental improvement was such as to warrant his return home on parole. He remained at home, however, only two months, as the improvement did not continue; and six months after the operation for hernia he was trephined over the motor area on the right side. Strong bands of adhesion were found uniting the dura mater to the pia along the upper two thirds of the fissure of Rolando. These fibrous bands were divided as far as the longitudinal sinus; and the patient made a good recovery from the operation. For a few days after the trephining slight movements of the left hand and foot were noticeable; but, with the exception of occasional twitchings of the toes of the left foot, these soon disappeared. The patient's mental condition was markedly benefited by the operation, and in September, 1898, he was discharged from the hospital completely recovered. He has remained well up to this present time.

In the surgical procedure next to be described, sensory phenomena formed a guide to the localization of a lesion, and the operation resulted in modifying the symptoms. The case was reported by Blumer in 1893:

Case 11.—Woman; sixty years of age; admitted to the Utica State Hospital on November 2, 1891, suffering from melancholia of six months' duration. Three years prior to her admission she struck her head on the iron portion of a bedstead, lost consciousness and was ill for a week or so afterwards. No subsequent bad effects were visible; she apparently recovered from the injury and was in her usual health until the spring of 1891, when mental changes were first noticed. At that time she began to imagine that her neighbors were speaking ill of her, thought that people were trying to poison her by throwing dust in her face, heard imaginary voices which she sometimes answered, and finally wandered away from home in order to escape her tormentors. After her admission to the hospital an examination revealed the fact that there was a marked depression in the skull over the ascending parietal convolution in the sensory area for the left leg. She complained at the time of perverted sensations in the left lower extremity, feeling as though she were being burned and cut and pricked with pins. On the fifth of November the operation of trephining was performed. The buttons of bone removed were very thin over the site of the injury, consisting only of a lamina of cancellous tissue; but there was no evidence of fracture of the skull nor of consequent pressure. The dura mater appeared quite normal, and nothing indicated that it ought to be incised. It was the opinion of those present that, if the symptoms of irritation should not subside with the removal of the bone, the wound might afterwards be reopened; and then the membrane could be incised and the cortex examined. The subject had an uninterrupted recovery from the operation. So far as her mental symptoms were concerned there seemed to be no improvement; but the manifestations of irritation in the sensory centre for the left leg had subsided, and the patient had ceased to complain of being burned, cut and pricked with pins. In fact, for three years after the operation—when I lost track of the case—she presented no further symptoms of cortical irritation.

V. Pelvic surgery:—There has always been more or less dispute as to the benefits to be derived from pelvic surgery among the insane; but it cannot be gainsaid that good results have at times been obtained from it. The great trouble has been the desire on the part of some to operate in all cases, without carefully considering the relationship between cause and effect. In reference to this matter I cannot do better than quote Skene, whose large experience entitles his views to serious consideration. In a paper on "Relations of Disease of the Sexual Organs to Insanity and Nervous Disorders," which he read before the American Medico-Psychological Association in 1892, he goes into this subject very fully.

"Diseases of the sexual organs in women," says Skene, "while they give rise to a great variety of nervous disturbances, do not by any means cause insanity so often as gynecologists have believed and taught in their writings. Diseases of these organs rarely cause insanity, comparatively speaking, unless there is a predisposition to insanity. This is evident when we consider that there are so many cases of disease of the sexual organs and consequently of nervous affections among women, compared with the number of cases of insanity among the same sex; and the fact that the cases of insanity among women who are known to have had or do have some uterine or ovarian disease, have in a great majority of instances a neurotic history which shows a predisposition to insanity."

This statement of Dr. Skene conforms very largely with the views held by most conservative surgeons and alienists. Therefore, in operating upon the pelvic organs of women suffering from insanity, the central thought should not be that the operation is going *per se* to bring about a mental recovery, but rather that the general health of our patients will be improved by the removal of pathological conditions; and also that insane persons are as fully entitled to the advantages held out by surgery, as are the sane.

I will describe only two of the cases of pelvic surgery at the St. Lawrence State Hospital.

Case 12.—Woman; married; thirty years of age; was admitted on the tenth of February, 1897, and had a defective family history since two aunts of hers and two uncles had been insane. She was suffering from melancholia of about a year's duration. Previous to her admission she had three times attempted suicide. She had killed one of her children and cut the throats of two others (who however did not die); and when admitted to the hospital she was despondent, agitated and restless. A physical examination revealed a tumor in the abdomen, connected with the right ovary. Two months after admission this was removed and was found to be a dermoid cyst. The left ovary was cystic, and was also removed. Convalescence from the operation was rapid. Within two weeks the patient had grown to be less depressed; and one month later she had gained in weight, was exercising better self-control and was far more cheerful. She continued to steadily improve, and by the first of July was practically recovered. However, in view of her family history, we kept her under observation for another month, when she was paroled for thirty days, and at the end of that period discharged as recovered.

The other case, so far as mental recovery is concerned, was not so fortunate; nevertheless it is a case of some interest, since the patient's physical condition was greatly improved by pelvic surgery and it was made possible for her to take more interest and comfort in life than she had formerly taken.

Case 13.—Woman; fifty years of age; affected with chronic melancholia of four years' duration. She had fixed delusions and at times manifested suicidal tendencies. She had a chronic vaginal discharge, which was found to contain gonococci; and she was subject to attacks of pelvic pain and distress, which required her to spend nearly half her time in bed. An exploratory operation was thought advisable, and when this was resorted to, it was found that the left tube and ovary were thickened and in a state of chronic inflammation. They were therefore removed. The patient recovered from the operation; and she has had no return of pelvic pain, although three months have elapsed since the removal of the organs.

In both the above cases the diseased condition of the ovaries and tubes was well defined, and operative assistance was strictly demanded.

We do not wish to be understood as advocating the removal of healthy organs for the possible relief of the so-called reflex psychoses. It is very well known that the removal of healthy ovaries in those under the age of thirty-eight, produces a premature menopause with greater depressing effect upon body and mind than would result from this physiological crisis coming on at the natural time and in the natural way. But when these organs are diseased to such an extent that their function is modified or destroyed, then so great a depressing influence upon either the general or the nervous system, does not follow their removal.

Skene says that "the slow destructive action of the ovaries prepares the organization, as it were, for the menopause, and at the same time occupies the nervous system with the disturbances which come from diseased ovaries, and hence their removal is a relief to the nervous system; whereas the removal of the normal ovaries is, figuratively speaking, an outrage to the nervous system which often overwhelms it." This statement needs no comment.

VI. Resection of ribs for empyema:—The following case would seem to show that this operation is sometimes productive of mental relief.

Case 14.—Man; twenty-eight years of age; single; by occupation a laborer; admitted to the hospital in 1895, suffering from acute mania complicated by chronic pleurisy and empyema. There was a sinus leading from the cavity of the right pleura. This closed up soon after admission, and the patient began to fail physically. Examination showed that pus was accumulating in the pleura. So part of the seventh rib was resected, and the pleural cavity was thoroughly irrigated and drained. The patient at once began to improve both physically and mentally. The mental improvement was uninterrupted, although his physical improvement was slow and tedious, extending over a period of several months. Ultimately he was discharged recovered. In this case mental improvement was co-incident with the building up of lowered physical vitality.

In concluding, we would emphasize the fact that mere medical and moral treatment does not meet all the requirements of psychiatrical practice; and that therefore we should leave no stone unturned in endeavoring to treat our cases individually, according to their several needs.

A large number of our patients come from the country, and many of them from the poorer classes of society. Some of these have never had the opportunity for an operation which might relieve them from prolonged distress and suffering. Surgical diseases, existing in those predisposed by heredity to insanity and causing them general ill health, are also in a number of cases undoubted causal factors of the insanity itself, and should be so recognized. In many instances, unfortunately, local disease has existed too long for the possibility of mental recovery by surgery; but even in these cases it becomes our duty to relieve the associated disease trying at the same time to place the patient in as comfortable a mental state as possible. At the St. Lawrence State Hospital the results of our work along the lines laid down in this paper have been entirely satisfactory from the surgeon's standpoint; while we enjoy the gratification, in addition, of knowing that in a number of cases mental recovery was directly aided by this course of action.

DIAGNOSIS AND TREATMENT OF FRACTURES OF THE HIP JOINT.*

By DOUGLAS C. MORIARTA, M. D.,

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Mr. President and Gentlemen:—

The diagnosis and treatment of fractures of the hip joint are matters of great anxiety to me. If I may deduce from the literature on the subject and my own experience, I would say that they are exceedingly difficult for the most experienced to meet. Except they result from a violent traumatism, they usually occur in elderly people from missteps, twists or falls. The pathology is not settled; at least there are contradictions to any theory advanced. One thing is certain, however, that the bones at this point have less resistance in elderly people and breaks occur here more frequently than elsewhere. There have been so many fractures at the hip joint this winter that I thought the subject would be a timely one, as in my practice I have been so many times perplexed in trying to reach a conclusion as to diagnosis and proper treatment.

In these cases, as in all cases of fracture, it is particularly essential that the physician or surgeon in charge should protect himself in his prognosis, as nowadays there are so many instances of suits being brought for malpractice. This is the result, I believe, of constant litigation for damages from railroads, and other instances of traumatism where there is a possible chance of neglect. There is apparently always a class of lawyers willing to take up these cases, if only a small chance or scarcely a possibility of success awaits them. I am also sorry to say that I think that all the members of the medical profession are not true to their colleagues, as I am sure in some instances such suits have been advocated by members of the profession; at least they have not been discouraged, which amounts to the same thing. It has always been a mystery to me how a member of the profession dare do such a thing; because if he does, he will be like a man looking for fight, he will surely find it. The danger from this latter source while not great is very annoying; but the individual is soon located and he had best take care for it will be only a short time before he will be in the same predicament himself and at the mercy of his friends.

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*Read before the Saratoga Medical Society, February 23, 1900.

It has been a rule with me for several years to make my prognosis in the presence of some reliable individual in all cases of fractures. And I have another rule from which I have not deviated in the past ten years, i. e., not to put up a fracture permanently alone under any circumstances. Those of you who have done otherwise and not given this matter a thought, should change your methods, for there is surely trouble ahead for any one who treats fractures without this precaution. I believe it is well to repeat to a patient in this condition, and his friends, the words of Stimson, "In fractures at the hip joint the first consideration is to save the life of the patient, the second is to get union, and the third to obtain union in the best possible position."

In diagnosing fractures at the hip joint one must differentiate them from the dislocations of the various sorts, from contusion, old injuries and dislocations with fracture. The latter is very uncommon and will not be dwelt upon further than to mention it; the possibility of its occurring, however, should be borne in mind. The anterior dislocations at the hip joint are associated with eversion and shortening and are at times perplexing; while the posterior dislocation with inversion is less frequent, still it must be considered, as we occasionally have fractures at the hip joint with shortening and inversion. In these conditions we are aided in reaching a conclusion by the use of Nelaton's and Bryant's imaginary lines, though the shortening is more accurately determined by comparing the measurement of both legs by measuring from the anterior superior spine of the ilium to the malleolus. The sign of most value in impaction is inversion of the foot, and there is usually some flattening in the region of the trochanters on the affected side; should these be prominent conditions, crepitus should not be sought for forcibly.

Of course, the more favorable the conditions are for examining the patient, the more value these signs will have.

If you can arrange your patient on a hard or firm bed or table it will be much easier. If the patient is on a spring bed and sinks down, I have found it of great service to place a section of an ordinary extension table under and thus bring the body nearer a plane. With the patient in this position we first compare the injured member with the well one and determine the amount of shortening, note whether the leg is inverted or everted, whether the legs are parallel and if the member is flexed or straight. If the accident occurs in a joint previously diseased, see if the pelvis is on the table when the leg is straightened; if so it will exclude an old hip joint injury.

Nelaton's line was suggested to detect displacement at the head of the femur; it is an imaginary line from the anterior superior spine of the ilium to the most prominent point of the spine of the ischium. This line, in the normal condition of the joint, should cross the upper border of the trochanter of the femur and divides the acetabulum. Bryant's line is an imaginary line drawn around the pelvis at the level of the anterior spine of the ilium. The distance from the top of the trochanter to this line will be found shorter on the injured side. In dislocations at the hip the trochanter will be in an abnormal position.

In differentiating dislocations from fractures at the hip joint, only pubic and sciatic dislocations are essential to remember. Pubic dislocations and fractures of the neck have the following signs in common: eversion of the foot, impaired voluntary motion, history of accident, shortening, local pain, contusion and probable ecchymosis. The differential points are: displacement of the trochanter, which is forward and out of position and much less prominent; no crepitus is obtained, and reduction is difficult but permanent; the mobility of the limb is impaired. Sciatic dislocations and fractures at the hip joint, with inversion of the foot, have also symptoms in common: inversion of the foot, shortening, abnormal position of the trochanter, history of an accident, impaired function. A dislocation of this sort is differentiated from a fracture on account of the impaired mobility, there being no crepitus, and an abnormal tumor which is felt to rotate on the motion of the femur. It may occur at any time of life with direct violence.

In diagnosing fractures at the hip joint, the point of fracture must be considered. Many eminent writers have classified these conditions differently, no doubt basing their conclusions on their own experience and observations. Astley Cooper writing on the subject speaks of them as intracapsular and extracapsular. Prof. Bigelow uses the expression "impacted fracture of the base of the neck, unimpacted fracture of the rest of the neck," and claims clinical reasons for so doing. Prof. Stimson prefers to describe them as fractures of the small part of the neck (intra-capsular) and fractures at the base of the neck (extra-capsular) or mixed fractures. The line of fracture in either case may be transverse, oblique or irregular, and of course may be comminuted, compound or both. The symptoms depend in a measure on the location of the fracture and whether impacted or not.

Personally, however, I have never been able to differentiate the one from the other, nor have I ever happened to meet a consultant who was very sure of his ground in this particular. Furthermore I do not appreciate any advantage in being able to say to the patient that the fracture is at the small part of the neck or at the base of the neck; though I believe thoroughly that one should have this condition in mind when making a prognosis, as all teachers and men of experience base their prognosis on these points, assuming that a fracture at the small part of the neck is very much more likely to have an unsatisfactory outcome. But if you will accept a suggestion from me, you will assume all to be fractures of the small part of the neck and make your prognosis accordingly. For fractures at the hip joint are not cases upon which one would wish to try to build up a reputation, as we are almost always sure to have some imperfect features in our results and accordingly some dissatisfaction.

The symptoms of fracture at the hip joint and signs upon which we are taught to make a diagnosis are purely objective manifestations. As a rule the patient is unable to move the injured member, there is almost always some severe pain and there may be some local bruising and discoloration. The position of the limb is very suggestive; it usually appears shorter than the well one, slightly flexed and usually everted, though we do sometimes have inversion of the member. The latter condition is more apt to occur after a few days, particularly if the impaction is broken up. Eversion is said to be mechanical, the result of gravity, though it has been thought to be due to contraction of the external rotators. This is not tenable, however, as the condition is more exaggerated after death. On the other hand, it very frequently occurs in traumatism about the hip. Crepitus is another sign upon which great stress is laid; reduction of the deformity is easy but not permanent; there is greater range of mobility but not of voluntary motion. One of the symptoms mentioned is very much sought after, notwithstanding general teaching to the contrary; almost every one looks for it, which I can say from my own observation, is a bad practice. I refer to the persistent efforts which are made to determine crepitus in these cases. All authorities agree that the chances of union, as well as life, are markedly less if impaction is disturbed. Some author has said that the patients persistently handled at the first examination furnish most of the fatal cases. Yet in the face of these conditions the desire to make an accurate or positive diagnosis is so great that this danger is overlooked. I practice and believe that we are justified in diagnosing fracture at the hip joint without crepitus if we have the other accepted symptoms, i. e., shortening, eversion or inversion, pain, loss of voluntary motion, trochanter in normal position, with a history of traumatism, particularly in an elderly person.

After the diagnosis has been settled, we have to decide concerning treatment. It is always well to have your patients on fracture beds if possible; by so doing they are very much more comfortable and it is much easier for the family or nurses. I always say to them that it is more than probable that there will be some deformity even if we get union, although there are some cases where union did not occur and yet a useful member resulted. In very old people I promise absolutely nothing, though during the past eighteen months I have had one patient, 84 years old, who secured firm union after a fracture of the hip (fibrous or otherwise). The patient recovered and was able to be up and about her room for weeks, but has since succumbed to pneumonia. Another I saw several times in consultation and though she was quite a bit over 70, union occurred in a good position, though no splints were employed on account of her feeble condition.

Three years ago I saw ununited fracture of the hip in a lady about 90 years old; she was helpless but lived about a year. Stimson says that in extreme old age the severity of the injury, the probability of the limitation of function in any case, the extent to which attempts to reduce the displacement may be carried is very limited; and that the danger to life by so doing forbids the attempt to overcome shortening and eversion. Furthermore, gentlemen, I wish to emphasize that it has been my experience that this class of cases do not bear confinement in splints and if they are persisted in, your patient will promptly succumb to pneumonia.

Some ten years ago I had such a case in a very old lady who suffered a traumatism while traveling in the cars. When she reached Saratoga I was called and recognized the fracture and her physical condition, and advised against confinement in splints. An able consultant was called who acquiesced in my treatment. The patient went on nicely for three weeks and was free from pain and doing well when another member of the family arrived. When he was informed that she had a fracture and was not in splints, he promptly dismissed me and my consultant and called a colleague who agreed with him, and who placed her in splints and immobilized the joint. She promptly died thirty-six hours later, death being entirely due I believe to the shock incident to such confinement, as her condition was extremely satisfactory when I was dismissed.

These are cases that I believe are best treated as Bryant mentions on the double inclined plane or with a very slight extension and sandbags, but no splints. In general, however, if the age and physical condition of the patient permits, the treatment must be directed toward immobilizing the limb and holding it in a correct position to prevent further shortening. A very important problem to decide is whether to try to overcome the shortening or not. I meet this condition best by a long splint from axilla to malleolus with extension and sandbags. Counter extension by elevation of the feet is sometimes required. This should be continued until consolidation occurs. Stimson adds, "or until the character of the fracture is determined, and if intra-capsular it must be continued until we are sure union is not going to occur, or until the condition of the patient renders a change of posture imperative." We must be careful to protect the malleolus from the splints and see that the heel is protected, or else we will have an annoying condition from the continuous pressure. Some times I have used the sliding foot-rest with extension, without the sandbags, but prefer them as a rule. You are familiar, of course, that these conditions have been treated with all sorts of devices from the double splint of Bryant with rubber extension, to the spica cast or the similar cuirass of Bonnetts, which involves the head, trunk and both legs. However, I have succeeded well and continue to use the means mentioned.

In conclusion, I would suggest:

1st. Protect yourself in the prognosis and treatment with a reliable consultant.

2nd. Do not persist in demonstrating crepitus.

3rd. Do not expect or try, under adverse conditions, to obtain perfect results in elderly people, but accept the best results consistent with saving the patient's life.

POST-GRADUATE INSTRUCTION IN THERAPEUTICS.*

By REYNOLD WEBB WILCOX, M. D., LL. D.,

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How best to teach therapeutics to graduates in medicine is by no means an easy problem to solve because of the differences in the students who present themselves. Of the classes, at least, three can be cited: first, a small division composed of men who hold teaching positions in smaller schools; these are usually well informed in the fundamentals of the subject but wish the latest information and, in addition, to learn something of the methods of imparting knowledge; next comes the recent graduate who in place of residence as house physician, elects post-graduate work in order to extend his knowledge of theory by observation of practice and participation therein; lastly, the practitioner of several years standing who wishes to broaden his horizon, to see the latest and most approved methods put into practice, and to learn that which is to be of immediate use.

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*Read at the 94th Annual Meeting of the Medical Society of the State of New York, at Albany, on January 30, 1900.

The first class expects something in addition to that received by the others. If not more advanced they are at least more eager and follow much more attentively the work of the lecture room, the ambulant clinic and the wards. They are usually diligent in taking notes and their books frequently show that epigrammatic statements of principles and comments on resurrected theories are more eagerly sought for than either stock prescriptions or discussions about favorite drugs, no matter how eminent may be their advocates. These require not only matter but method, and that method to be carefully formulated and presented in a manner which demands attention and compels memory.

The recent graduate presents himself in all degrees of preparation for practicing the art of healing. Some know the theory of therapeutics well and something of its application: these are by no means to be always found among the graduates of the more noted schools. Others may have spent much time in attendance upon clinics, have seen considerable practical work, but are weak in knowledge of the fundamentals, and from lack of classification, their knowledge is of little practical use. Still others are unfortunate victims of some therapeutic nihilist who is slumbering in the chair of therapeutics on his way from pathology to medicine by way of therapeutics. These have been told that some pharmacal or physical agency may do good in some morbid condition and they may try it if they like. To these a therapeutic demonstration is a revelation and scepticism gives way to an intelligent knowledge of power.

The practitioner who has battled with the hard problems of disease, who knows not only the capability of remedies, but their untoward effects, needs no argument for the existence of the chair of therapeutics. The honest physician knows what he can accomplish, and he also knows the limits of his skill. These he wishes to enlarge not only by learning of new agencies, but as well to learn how better to employ the old. While not unduly optimistic, the physician in active work is eager to make him still more useful to his clientele. These men appeal more strongly to the post-graduate teacher and their satisfaction with the instruction which they receive is gratifying. They have but little to unlearn, as compared with the recent graduate, and real therapeutic advances meet with ready appreciation.

How best can we meet the demands of the individuals who compose the audience at a post-graduate school, a class which is heterogenous in preliminary training, scientific information, practical experience, and even in mental capacity. Yet post-graduate teaching is a failure if each individual does not finish his course feeling that he is immeasurably better fitted to cope with the exigencies of his daily work. Sixteen years of teaching several thousands of medical graduates have not solved the problem to my entire satisfaction. That matriculates acquire benefit, is evident from their increasing numbers, and their return year after year for additional instruction. Since the medical graduate knows what he needs and wishes to acquire that which he has not, although he is supposed to have learned, many valuable suggestions from them have been adopted. If this discussion shall not only attract attention to the teaching of therapeutics, as has been designed, but shall awaken suggestion and criticism, the purpose of these papers shall have been more than fulfilled.

What then shall be our standard? First and foremost, intense practicality. Nothing didactic, but all demonstration. No discussions about the treatment of a disease, but how to deal with a patient suffering from a given disease, and that patient present for examination and observation. Therefore, it is my practice to recapitulate the history and symptoms in the briefest space possible, demonstrate physical signs, which are to be verified by the class, reach, so rapidly as possible, a working diagnosis, point out what variations in structure and function exist, and discuss what indications for physical or pharmacal interference are present, and how best to meet them. Diseases of the various physiological symptoms are grouped so far as is possible and different stages of the same disease demonstrated. The matriculates are encouraged to continue their observations upon these patients in the dispensary and in the wards of the hospital, where, in small groups, individual study and examination is practiced.

In watching the course of disease and the results of treatment, wherever possible instruments of precision are employed, so that the impressions of the patient are not taken as a guide in estimation of improvement, but the record of the sphygmograph, the readings of the spirometer and the hæmoglobinometer, the result of chemical and microscopical, including bacteriological, examination. Belief in the efficacy of therapeutic methods is not desired, but mathematical demonstration. Every effort is made to induce matriculates to attend regularly at the dispensary clinics and in the hospital wards, so that they may see for themselves the results which surely follow skillful treatment. Published case-records amount to little when compared to intelligent observation and the statistics of public work can not be falsified. It may be objected that the scheme outlined does not include laboratory work. Much as this may be desirable, and even necessary for the teacher, at present it is impossible. The graduate has no time to analyze the findings of physiological experimentation; he expects his teacher to do this and deduce conclusions which have a practical bearing for him. This also applies to conclusions in regard to new remedies.

Success in teaching graduates depends on (1) demonstration and demonstration repeated, until effect is indisolubly united to cause, and coincidence absolutely excluded; (2) those methods which have practical bearing must be selected and their scope and limitations demonstrated. Fads and bizarre notions have no place in scientific therapeutics. Facts, not faith, appeal to the true scientist. If resurrected methods are mentioned and occasionally demonstrated, it is to show their inferiority, uselessness or danger, that the graduate shall not be deluded into the belief that he has something wonderful or new; (3) a healthy optimism, which is far removed from an easy credulity on the part of the teacher, aids greatly in inculcating sound treatment.

Finally the interest in therapeutics shown not only by those who practice internal medicine, but by those who follow limited branches of the healing art, is demonstrated by the large and enthusiastic classes which attend that department of instruction. This fact also warrants the confidence of the teacher that the triumphs of medicine, even if not so showy, are certainly as enduring and equally great when compared with those of mechanical therapeutics or surgery.

THE MEDICAL COMPLICATIONS OF GONORRHŒA*

By SAMUEL B. WARD, M. D.,

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Mr. President and Gentlemen:—I presume that it will be universally admitted that the specific cause of gonorrhœa is the microscopical organism known as the gonococcus, discovered by Neisser in 1879; that the usual point of original infection in the male is the urethra and in the female either the urethra, the vagina, or the cervix uteri; and that from these points the inflammation here set up spreads either by continuity of surface, by contiguity of tissue, by accidental transference to some other mucous surface, or by general systemic infection through the blood. It would perhaps be difficult in some cases to get all to agree whether a certain complication was to be regarded as a medical or surgical one, but most of them come under the care of the medical man in the first instance at any rate.

By continuity of surface in the male the inflammation may extend through the urethra into the bladder, and from there through the ureters into the pelvis of the kidney, and may even involve the kidney itself. It may also extend through the spermatic cord into the vesiculæ seminales, the epididymis and the testicles. In the female, starting from the vagina, the urethra or the cervix, it may extend upwards through the bladder and uterers to the kidneys, as in the male; it may also extend through the cervix into the uterus, and through the Fallopian tubes, and at their fimbriated extremities by contiguity involve the ovaries and the peritoneum itself. In either sex also through the lymphatic system some of the glands in the groin may become involved.

By contiguity any of the structures near the inflamed mucous surfaces may also become involved, giving rise to peri-urethral abscesses, inflammation of the vesiculæ seminales, vulvo-vaginal glands and prostate.

By accidental transference, the mucous membrane of the eye is more frequently affected than any other. The anus, rectum and mouth also occasionally become involved. The nose is very rarely affected and parotitis and mastitis are rare.

That the gonococcus gains admission to the blood current cannot be denied, as it has more than once been found in that fluid, but it is to be borne in mind that the gonococcus invasion is frequently followed by that of the streptococcus and diplococcus, so that mixed infection is very common. Having once gained access to the blood, it is manifest that every organ in the body may be reached, giving rise to local inflammation almost anywhere, certain organs, however, suffering more frequently than others. That it may also give rise to a general septicæmic infection was shown by Thayer and Blumer in 1895, they having been the first to obtain the gonococcus in pure culture from the blood. This observation has since been verified by others. No text-books published more than five years ago contained anything of importance as to the medical complications of gonorrhœa, and gonorrhœal septicæmia prior to that time was not even mentioned; in fact, gonorrhœal rheumatism was the only purely medical complication that received any considerable attention, endocarditis being mentioned only in a line or two by a few of them.

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*Read before the Medical Society of the County of Albany, February 14, 1900.

Pleurisy is now recognized as one of the possible medical complications, Mazza having obtained the gonococcus in pure culture from a pleuritic effusion in 1894, and others have since verified his observations.

Pneumonia has also been mentioned as an occasional complication. It is also suspected that infection of the central nervous system is possible, but the gonococcus has never yet been demonstrated in either the brain, or cord, or their meninges.

Endocarditis is now recognized as one of the more usual complications of gonorrhœa. Autopsies have shown vegetations on the valves of both the aorta and pulmonary artery, some of which were purulent. On microscopical examination intracellular gonococci were found, even though none were found in the blood in some of these cases. The symptoms during life were entirely similar to those of endocarditis from other causes, having been usually of the ulcerative variety.

Pericarditis is also recognized as one of the complications, and myocarditis also occurs occasionally, the proof in both these cases lying in the finding of the gonococcus at the site of the inflammation.

Rheumatic affections of the joints have been longer recognized as complications of gonorrhœa than any other affection, and have received more attention than the others. In the mildest cases this amounts to nothing more than fugitive pains and some stiffness, without redness or swelling, of the joints, which symptoms speedily pass away and leave no trace behind; but more commonly the inflammation results in fibrinous or sero-fibrinous effusion with swelling and redness, and in children may follow after gonorrhœal ophthalmia. Very often the inflammation extends to the peri-articular structures and along the sheaths of the tendons, especially about the wrist and hand. Occasionally suppuration follows with extensive destruction of all the tissues involved. Osler characterizes it as "the most dangerous, disabling and serious of all the complications of gonorrhœa." Some others describe it as affecting only the knee joint or being, at any rate mono-articular; but Northrup collected a series of cases in which three or more joints were affected more than 175 times, and a single joint only fifty-six times.

Unlike the rheumatic arthritis, this affection is peculiar in attacking the sterno-clavicular, inter-vertebral, tempero-maxillary and sacro-iliac articulations. Gonococci may be present in the inflamed joint or the exudate. In some cases it occurs in pure culture; in many others the infection is mixed with that of the staphylococcus and streptococcus, while in a few mild cases no organism at all can be found. It has been suggested that in these cases the arthritis is the result of the absorption of the toxine of the gonococcus without the organism itself being taken up. Of course it is now admitted on all hands that this affection has no relation whatever to true rheumatism. The two poisons have this in common—that they both tend to excite inflammation of synovial or serous surfaces, but their relationship extends no farther. It may occur at any stage of the disease, even during a gleet, and is more common in males than in females. It occurs in about two per cent. of all cases of gonorrhœa. Fibrinous ankylosis is a very common result, and for the most part the disease is persistent and its course protracted. Many excellent and exhaustive papers have appeared on this subject, among which may be prominently mentioned those of Dr. R. P. Howard, of Montreal, and Dr. R. L. MacDonnell. One of the peculiarities of this arthritis is that it is not accompanied by very severe constitutional symptoms, and it has been suggested that the obstinacy of the attack depends upon the persistence of a gleet, which must be subdued before a recovery can be hoped for. Perichondritis, especially of the costal cartilages, is a not uncommon complication, and the tendon Achillis is occasionally involved.

The diagnosis of this affection depends, of course, on the history of previous or existing urethral disease and the negative character of the constitutional symptoms.

The prognosis is good as far as life is concerned, but in the hands of most medical men has not proven good as to the integrity of the joint.

As to treatment, local counter-irritation with tincture of iodine, or blisters, or the actual cautery, with the use of iodide of potassium and bichloride of mercury proves to have given good results in the hands of many practitioners. Christopher Heath, in an article in the *Lancet* of November 25, 1899, says that in the treatment of gonorrhœal rheumatism by free local application of belladonna and glycerin, and five grains of quinin every six hours internally, and without the use of splints, he gets his patients up in two weeks and out in three weeks with perfectly movable joints. Others have tried his plan without the same successful results. Good results have, however, been obtained by opening and irrigation of the affected joint. Most authors agree that internal medication is of very little value, while others claim excellent results from the internal administration of quinin in large doses; that the urethral discharge must be stopped as soon as possible; and that rest to the joint is exceedingly important, even if obtained by the use of splints; and that in the chronic forms, massage and passive motion are very valuable.

The symptoms and treatment of gonorrhœal septicæmia present no special features. The diagnosis depends upon the history of the case, and finding the gonococcus in the blood, either in pure culture or mixed with other organisms. E. Walker has suggested and tried to prove that certain cases of puerperal fever were of gonorrhœal origin. Gonorrhœal iritis, often most obstinate in resisting treatment, would appear, in some cases at least, to be the result of general systemic infection and not follow after conjunctivitis.

Some thirty years ago, Dr. Noeggerath, of New York, speaking of gonorrhœal infection, made the broad statement which has since been widely quoted, "once infected, always infected." Dr. Noeggerath's specialty, as you all know, was the diseases of women, and he undoubtedly met a large number of cases in which salpingitis and other suppurative conditions in the female pelvis were the result of gonorrhœal infection. No doubt, when the gonococcus has once obtained access to these deep seated parts, it does produce many different varieties of serious troubles, but, on the other hand, many eminent gynecologists are of the opinion that his statement was an exaggeration, even as far as the female is concerned, and I think almost every general practitioner has seen numerous cases of simple gonorrhœa in the male in which the patient recovered absolutely. Dr. Willard Parker used to say that boys laugh over their claps of twenty and groan over their strictures of forty. This is no doubt perfectly true, but in many of these cases the inflammatory changes, with accompanying strictures are entirely independent of the presence of gonococcus at that time. I do not believe that Noeggerath's broad statement can be verified. An important question in connection with this subject relates to the propriety of marriage on the part of a man who has, or has had, gonorrhœa. Of course, it goes without saying that during the acute stage, or as long as there is a perceptible purulent discharge, there can be no question. The number of the *Münchener medicinische Wochenschrift* for September fifth last contains a discussion on this subject, in the course of which Neisser expresses his opinion, with which all reasonable men will probably agree, namely: "that every case of gonorrhœa should be subjected to constant microscopical examination for gonococci, and that marriage should be forbidden until they have entirely disappeared." Noeggerath and others have shown that dire results for the woman frequently follow intercourse with a man so long as he has the least gleety discharge. It seems probable that most of this would be avoided by following Neisser's rule.

[The discussion which followed the reading of this paper was directed almost entirely to the question as to what point of the female genital apparatus was the most frequent seat of the original infection. The writer's experience, from a purely clinical point of view, had been that it was the vagina. Clinicians, who wrote before the discovery of the gonococcus, appear to have had the same experience. Lebert, who wrote the article for Ziemssen's Encyclopœdia, which may be found in volume 8, at page 746, suggests substituting the name of "Pyorrhœa of the

Genital Organs" for gonorrhœa. He objects to "Urethral Pyorrhœa," because "in the greater number of cases it does not hold good for the analogous disease in the female."

Bumstead and Taylor, page 193, say: "Vaginitis is more common than any other form of gonorrhœa in women." At page 197, they say: "Gonorrhœa of the urethra usually coexists with that of the vulva and vagina, and sometimes with that of the uterus alone. Cases, however, are reported in which this was the only part of the genital organs affected." Gilbert met with three such instances, Ricord with two and Cullerier with one. At page 186 they quote Zeissl's statement that "only about five cases of urethritis are met with to 100 of vaginitis."

Morrow, in his System of Genito-Urinary Diseases, 1893, vol. 1, page 1,050, says: "vaginitis, so far as symptoms is concerned, is the form of gonorrhœa which has most frequently brought women to me for relief." He quotes Bumm's statement, and thinks that we are justified in making our diagnosis on clinical phenomena alone. It is only necessary to quote such names as Noeggerath, Sanger, and Wellander in support of the statement that clinical facts are sufficient to determine a diagnosis. On page 1,053, se says: "the greater frequency of urethritis met with by some authors has been referred to. I have not found it thus frequent. Forty per cent. would be a liberal estimate for those who have suffered with urethritis in my experience." It would thus appear that, clinically, vaginitis is more commonly complained of by women than is urethritis, and it is from that they suffer first in a degree to cause them to apply for relief. On the other hand, Bumm, in 1884, published the results of elaborate experiments, tending to show that the vagina was never the site of original infection, but that this always occurred either in the urethra or in the cervical canal—generally the latter. He claimed first, that, according to his microscopical examinations, gonococci enter only cylindrical epithelium, that they cannot pass through pavement epithelium, and whenever pavement and cylindrical epithelium come in contact, the gonococci disappear where the latter begins. The vagina is covered with firm pavement epithelium, which resists the effort of gonococci. He also examined portions of the inflamed mucous membrane of the vagina and never discovered a gonococcus therein and finally he kept blennorrhagic secretion in direct contact with the vaginal mucous membrane for twelve hours, and could never produce vaginitis in this way.

It is evident then that he admits of a vaginitis which is associated with blennorrhœa of the urethra and of the cervix and uterus, but contends that the cervical or uterine blennorrhœa is produced by the primary infection and the secretion stagnates in the vaginal canal and produces vaginitis. Steinschneider supports this view. They all admit that vaginitis may communicate blennorrhœa, but explain it by the fact that what they call a catarrhal vaginitis contains abundance of gonococci, which proliferate in the vaginal secretions as in an incubator and may even cover the vaginal epithelium, though they do not penetrate it. It appears in addition that the gonococci prepare the field for the invasion of a considerable number of other cocci and bacteria, which it is admitted do then proliferate freely in the vaginal secretion.

These views are opposed by Schwarz in every detail. He states that in many recent cases vaginitis may be demonstrated, although the uterus is entirely intact; that the obstinacy of the vaginitis proves its specific character; and that the presence of gonococci in the deepest layers of epithelium can be proven by scraping the vaginal walls with a curette after previous irrigation of the vagina.

Sanger (1899) also states that the vagina remains free from gonorrhœal disease when its epithelium is firm and contains many layers, but also states that true gonorrhœal vaginitis does occur even in adults, in young people, in pregnancy, in many women with delicate skin and blonde hair, and when the entire mucous membrane is succulent. These opinions are confirmed by Tuton's investigations. Finger, in his book on Gonorrhœa and its Complications, page 283, discusses this whole question fully, and closes the dissertation by saying: "I am convinced from my own experience that acute vaginitis may develop without disease of the cervical canal."

Steinschneider (1887) stated that "the urethra was affected only in recent cases." Fabry, Wellander and many others regard the urethra as the favorite site of the gonococci. On the other hand, Schwediaur states that "he never observed a case of urethritis in the female." Recent writers agree almost unanimously concerning the frequency of blennorrhagic urethritis and that it is never absent in cases of recent infection. Zeissl appears to be almost alone in maintaining that "only five per cent. of acute cases have the urethra affected."

G. Frank Lydston, in his Surgical Diseases of the Genito-Urinary Tract (1899) says, on page 163, "Vaginitis of venereal origin is exceptional, and urethritis is exceedingly rare and does not always occur when virulent vaginitis exists." On page 169 he says: "Most cases of gonorrhœal infection in women are not only uncomplicated by urethritis, but exceptionally by vaginitis." He appears to adopt the view that the cervix uteri and the uterus itself are the most frequent sites of primary infection.

White and Martin, in their work on Genito-Urinary and Venereal Diseases (1897), page 153, say: "Vaginitis, at one time regarded as the most characteristic manifestation of gonorrhœa in the female, is now recognized as occurring much less frequently than urethritis or endometritis."

Finger, on page 277, explains these differences of opinion as "owing to the rapid and mild course of the acute stage, and the readiness with which chronic urethritis in the female is overlooked."

Summing up the above evidence on both sides one would seem justified in concluding that in acute cases in the female the gonococcus can be more frequently found lodged in the urethra and the cervical canal than in the depths of the mucous membrane of the vagina. But that in these localities they give rise to very little annoyance to the patient—to very little acute inflammation. And that vaginitis is the condition for which many women acutely infected with gonorrhœa apply for relief, whether the gonococcus be found in the vaginal mucous membrane or not.

S. B. W.]

OPACITIES OF THE VITREOUS.*

By WILLIAM B. SABIN, M. D.,

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Opacity of the vitreous is that variety of inflammation of the vitreous characterized by the formation of fixed or movable opacities which may be either acute or chronic.

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*Read before the Medical Society of the County of Albany, March 14, 1900.

These opacities are usually the result of some pre-existing disease of some other part of the eye, although there may be a primary inflammation of this body to which they owe their origin. Exhaustion of the general system from long continued fevers, gout, constipation, anaemia, interference with the function of the liver by congestion, irregular menstruation, syphilis and the action of drugs may and sometimes do produce opacities of the vitreous. Injuries to the eye causing chorioidal haemorrhage will also result in their formation, and if extensive may lead to suppuration. Eye strain may be manifested by opacities; and late in the course of extreme myopia associated with posterior staphyloma they are liable to occur. They are also one of the changes which have been observed in glaucomatous eyes. Patients readily see opacities of the vitreous either as fixed or movable black spots and are able to describe their size, shape and situation. There may be no diminution of vision, although central vision may be entirely lost if there is a large centrally situated fixed opacity. There is usually no pain associated with them and if there is it is pretty certain to be complicated by some other affection and probably the result of it.

The treatment of opacities of the vitreous is of course dependent upon the cause of the disease. If due to refractive errors they must be corrected. Irregularities of the menstrual function, disorders of the liver or exhaustion from protracted illness must also receive due attention. If from syphilis, the mercurial preparations, iodide of potassium and iron compounds give the best results. Gout, constipation and anaemia must receive treatment for their share in the production of the disease. The soluble mercurial salts, iodide of potassium and carbolic acid have been injected into the vitreous chamber where the opacities were so dense that if they accomplished no good, they could not increase the blindness; but this is a dangerous procedure and very apt to cause panophthalmitis. A large fixed and more or less central membranous opacity may be divided by passing a discission needle into the vitreous in front of the equator of the eye, entering it just below the lower border of the external rectus muscle, care being exercised to watch the movements of the instrument with the ophthalmoscope. There are lesser forms of opacities of the vitreous which are called muscæ volitantes and while they are annoying, they do not interfere with vision; they are usually due to errors of refraction, and cease to be troublesome by correction with suitable lenses. There are also cholesterine crystals sometimes met with in the eyes of the aged, but of rare occurrence, appearing as small luminous bodies which reflect the light from the ophthalmoscope in the form of a shower of sparks, but they do not yield to treatment.

I have a case I wish to report, of a young woman, 32 years of age, who consulted me in July, 1898, complaining of dimness of vision and sore mouth and throat. Upon examining the mouth and throat I found the surfaces covered with a very large number of mucous patches. She gave a history of infection dating back three or four months and of having been under treatment for some time for specific disease. Upon examining the eyes I found her vision in the right equal to $\frac{15}{200}$, Snellen's, and in the left equal to $\frac{15}{15}$—. Upon ophthalmoscopic examination I found a thick membrane floating about in the vitreous of the right eye, while in the left I found slight evidences of beginning trouble, there being a hazy condition of the media. I at once put her on increasing doses of potassium iodide, beginning with fifteen grains three times a day and increasing three grains daily until she took seventy grains three times a day. I also gave her one-thirtieth grain of bichloride of mercury three times a day and daily inunctions of mercurial ointment. I discontinued the mercurials in about two months keeping on with the iodide of potassium. About the first of August the vision of the right eye was about the same, $\frac{15}{200}$, while the left was $\frac{15}{15}$, being slightly improved, but from this time the vision steadily failed in the left, so that by September 1st it was $\frac{15}{40}$; September 5th, $\frac{15}{50}$, and September 27th, $\frac{15}{100}$, the right remaining the same as before.

At this time ophthalmoscopic examination showed thick membranes in the vitreous of each eye so that the fundus was entirely occluded, and she found it necessary to be led to my office, as she could not discern where she was stepping. During the month of October she began to show some signs of improvement in regard to vision, the vision improving in the right from $\frac{15}{100}$ to $\frac{15}{50}$ —, and in the left remaining the same, $\frac{15}{100}$. In November the improvement was more marked, the right gaining in strength from $\frac{15}{50}$ to $\frac{15}{30}$ and the left from $\frac{15}{100}$ to $\frac{15}{30}$. About the first of December the vision again lowered to $\frac{15}{40}$ in each eye, but later in the month gained to $\frac{15}{XX}$ —, from that time until April 16th, 1899, the vision remaining about $\frac{15}{30}$ in each. I had reduced the doses of iodide so that at this time she was taking twenty grains three times a day. April 23d, vision equalled $\frac{15}{XX}$ —, June 4th, $\frac{15}{15}$ —, and July 9th, $\frac{15}{15}$, or normal vision. The ophthalmoscope now reveals a slight floating membrane in the right, while that in the left has been entirely absorbed. She is now doing light work in a drygoods store, where her eyes are not overtaxed and I feel confident that her trials in regard to her eyes are ended. I think the result in this case demonstrates in the highest degree the value and specific action of the mercurials and the iodides in diseases of the eye due to syphilis.

Clinical and Pathological Notes

Fracture of the Great Trochanter.—The literature on the subject is brief. Macdonald[1] says, "Fracture of the great trochanter may occur as a result of direct violence. The diagnosis is made by the existence of localized pain, and by the presence of a fragment which moves independently of the shaft of the bone." Pitcher[2] states that "the trochanter may be penetrated with such force as to split it into several fragments. On the other hand the fracture may be incomplete—a condition more likely to be met with in young subjects. The periosteum investing this portion of the femur is so thickened and strengthened by the fibres reflected from the capsule and the tendons inserted into the trochanter that it is seldom completely torn through when the bone is fractured." The following is from Moullin:[3] "Two forms of this have been described, but they are both rare. The first is merely a variety of the fracture through the base of the neck without impaction, the line of separation running obliquely through the trochanter a little further outward, so that one-half remains attached to the head and neck, the other to the shaft.

In the other variety the trochanter is detached from the rest of the bone by direct violence. Several instances are on record, but as the patients were young, in all probability they were examples of separation of the epiphysis." From the above statements it would seem that a fracture of the trochanter is sufficiently rare to be worthy of reporting.

On February 9, 1900, I was called to see the following case:

P. T., aged 63; nativity, Ireland; occupation, gardener. While riding on a load of furniture, the wheel struck in a depression in the street, throwing him to the pavement, a distance of about eight feet. He struck his right hip upon the curb-stone. When seen about fifteen minutes after accident, he was in a condition of semi-shock. Hypodermic injections of strychnia and morphine were given and he was removed to his home near by. After he rallied somewhat, I examined the leg and found him unable to move it. The foot was inverted and the limb was three-quarters of an inch short. The thigh was very sensitive. From this I concluded there was an impacted fracture. Although the parts were very sensitive, yet distinct crepitus could be elicited over the trochanter and a piece of bone from one-half to three-quarters of an inch in diameter was freely movable, indicating fracture of the trochanter. As the patient was very weak and nervous, and the heart was very intermittent, it seemed better to apply an axillary splint as temporary dressing. Heart stimulants were given. The next day I found the patient still very nervous. He complained of pain in the hip and back, the heart still intermittent. It was reported that the patient had had a number of very weak spells in the night. As he was doing so badly I sawed off the splint on a level with the umbilicus, so as to allow him to be bolstered up in bed and applied Buck's extension. The heart became much more regular when he was in a sitting position.

The patient had an uneventful convalescence. The splint was removed at the end of four weeks and the extension at the end of seven weeks, the patient allowed to get out of bed at the end of eight weeks. At this time, he had no pain, could move leg slightly, but the fractured trochanter was freely movable. On April 7 the patient kindly consented to go to the hospital and be shown to the clinic. The attending surgeon, Dr. S. R. Morrow, was able to feel crepitus and move the fractured trochanter and supported me in my diagnosis. The patient was last seen by me

April 29. He looked healthy, complained of no pain, was able to stand alone and could get about all day with a cane. Examination showed motion of leg good and about one inch shortening. The trochanter could not be moved.

Considering the age of the patient, epiphsyseal separation is out of the question. From the symptoms present, I consider it a case of impacted fracture of the femur, together with a fracture of the greater trochanter. The trochanter seemed firmly united, but the union was probably of a fibrous nature.

A. H. TRAVER.

809 MADISON AVENUE.

REFERENCES.

1. Macdonald. Surgical Diagnosis and Treatment.
2. Pitcher in International Text-Book of Surgery, Vol. I.
3. Moullin. Treatise on Surgery.

Editorial

The Early Diagnosis of Tuberculosis

It is a well recognized fact that the curability of tuberculosis, other conditions being equal, is in direct ratio to the period at which the disease is diagnosticated. Effort should therefore be directed to determine the diagnosis at the earliest possible stage. Examination of the sputum, though often positive, is frequently in the early doubtful cases negative and valuable time is lost in the waiting.

Levy and Bruns in a recent number of the *Deutsche med. Wochenschrift* recommend that guinea pigs be injected with the sputum of suspected cases and killed after several weeks to determine if tuberculosis of the abdominal organs has developed. At times these animals die in a few days from suppurative peritonitis due to the diplococcus pneumoniae or the streptococcus pyogenes.

B. Fränkel, in the *Berliner klin. Wochenschrift,* advocates the general use of tuberculin in early cases as the most sensitive of all the methods to determine tuberculosis. Although the fiascos, which have followed the therapeutic use of both the old and the new tuberculin, have made many of the profession skeptical about its value and safety even for diagnostic purposes, its undoubted success in accurately determining the presence of bovine tuberculosis makes its employment in obscure cases well worth considering. Where general and local reaction follow the use of tuberculin, tuberculosis can with certainty be said to be present. An increase in temperature of a half degree centigrade indicates a reaction. For several days before the injection of the tuberculin, the ordinary temperature of the patient is determined at intervals of three hours and this is continued during the test. If no reaction follows the first injection of one milligram of tuberculin, then after three or four days five milligrams are injected. If this also is negative, six to ten times the initial dose is employed. If no reaction occurs, tuberculosis is absent. This carefully graded method of using tuberculin can do no harm and failures in diagnosis in the early stage have been very rare. For surgical tuberculosis this method is especially applicable as the local reaction is easily observed.

Medical News

Edited by H. Judson Lipes, M. D.

THE ALBANY HOSPITAL.—In the July number of the ANNALS it was incorrectly stated that the Board of Governors of the Albany Hospital had decided to change their regular meeting day to Sunday. The By-laws require meetings on the second Saturday of each month and this cannot be altered without a two-thirds vote. The interest manifested by the Board is exceedingly gratifying and it is most encouraging to see how well the work along all lines is progressing.

TROY CITY HOSPITAL.—It is announced that arrangements are being made for the celebration of the fiftieth anniversary of the founding of the Troy City Hospital, on August 15.

ALBANY MEDICAL COLLEGE ANNOUNCEMENT FOR SESSION 1900-01.—The 1900 catalogue of the Albany Medical College containing announcements for the session of 1900-1901 has recently been published. It is of the same high character as was the catalogue of last year. Important changes are noted:

Faculty:—Dr. A. MacFarlane, formerly Clinical Professor of Physical Diagnosis and Lecturer on Medical Jurisprudence, has been promoted to the Adjunct Professorship in this department. Dr. A. G. Root, formerly Lecturer on Diseases of the Throat and Nose, has been made Clinical Professor. Dr. J. M. Mosher has been made Lecturer on Insanity, Neurology and Electro-Therapeutics. The lecturer on Clinical Microscopy has not yet been appointed. Dr. H. Judson Lipes was promoted to Lecturer on Obstetrics. New instructors were appointed as follows: Arthur Wells Elting, M. D., Surgery; James Wesley Wiltse, M. D., Materia Medica; Henry Larned Keith Shaw, M. D., Diseases of Children; Alvah Harry Traver, M. D., Surgery; Edgar Roscoe Stillman, M. D., Physiology; Edgar Albert Vander Veer, M. D., Surgery.

Calendar, 1900-1901.—1900: Regular winter session begins Tuesday, September 25. Election vacation, Monday and Tuesday, November 5 and 6. Thanksgiving vacation begins Wednesday afternoon, November 28. Lectures resumed Monday, December 3. Christmas vacation begins Saturday, December 22. 1901: Lectures resumed January 3. Commencement Wednesday, May 1.

Course of Instruction.—There are a number of changes announced in the course of instruction. The only change in the first year is that the lecture on Pharmacy has been dropped. In the second year there will be only one lecture on surgery. The laboratory work in Pathology and Bacteriology is increased from two hours to five. The Medical Clinic will not be held for this class, but there will be an additional hour's Surgical Clinic. Bacteriology, which was previously taught in the third year, as seen above, will be part of the second year's work. In the third year the laboratory work in Clinical Microscopy will be increased. There will be another lecture and recitation added in the department of Surgery and the clinic will be increased by an hour. The History of Medicine and Railroad Surgery will each be given in one lecture for half the term. In the fourth year another lecture in Practice of Medicine is added. Lectures on Otology will be given half a term, and the work in Medical Jurisprudence and Hygiene will occupy one and a half hours.

Prizes.—Announcement is made that pursuant to the provisions of a bequest by the late Dr. Nathan G. Daggett, of Schenectady, N. Y., an alumnus of the Medical College of the class of '67, the following prizes are offered for the ensuing year: 1. For the best "anatomical specimens," a first prize of eighty dollars and a second prize of forty dollars. 2. For the best "deportment irrespective of scholarship," as determined by the faculty, a prize of eighty dollars and a second prize of forty dollars, these prizes restricted to members of the Senior class. Further announcements concerning the Daggett prizes will be made.

Schuyler Alumni Prize for 1901.—Dr. Clarkson C. Schuyler, A. M. C., '75, offers a yearly prize of one hundred dollars, to be awarded at the annual meeting of the Alumni Association, for the best essay written by a graduate of this college on some prescribed subject. The subject for next year is: "The influence of the discovery of the relation of bacteria to disease on the practice of medicine exclusive of surgery." Competing essays, signed by some assumed name or motto, and accompanied by a sealed envelope superscribed in the same manner and containing within the author's real name and address, are to be sent to Dr. Samuel B. Ward, Albany, of the prize committee, on or before March 1, 1901.

RECENT CHANGES IN MEDICAL COLLEGES.—Dr. F. S. CULLEN and Dr. W. W. RUSSELL have been appointed professors of Gynecology at the Johns Hopkins Medical School.

—DR. GEORGE P. DREYER, Associate Professor of Physiology in the Medical Department of Johns Hopkins University, has accepted the chair of Physiology in the Medical Department of the University of Illinois.

—DR. VICTOR C. PEDERSEN has been appointed Assistant Demonstrator of Anatomy at the College of Physicians and Surgeons, New York, and Assistant Surgeon to the Out Patient Department of Roosevelt Hospital.

—DR. F. SAVARY PEARCE has been elected Clinical Professor of Nervous Diseases in the Medico-Chirurgical College, Philadelphia.

DR. PILCHER HONORED.—The Board of Regents of the University of Michigan conferred the honorary degree of LL. D. at the commencement exercises held June 21st upon Lewis S. F. Pilcher, Brooklyn, N. Y., Professor of Surgery in Long Island College Hospital and Editor of the *Annals of Surgery*.

FORESTS FOR CONSUMPTIVES.—The State Forestry Commission, is to purchase 40,000 acres of land at the head waters of each of the three principal rivers of the State, in order to rear forests. This is looking forward to the future State care of consumptives and also for out door recreation for other invalids.

MEDICAL REGISTER DISCONTINUED.—The Faculty of the Medical College of Virginia announces that the *Medical Register*, published under the auspices of the Faculty and Society of Alumni, has been discontinued.

DEPARTMENT OF ETHNOLOGY AND ARCHAEOLOGY, PAN-AMERICAN EXPOSITION 1901.—The Pan-American Exposition has entrusted the care of the department of Ethnology and Archaeology to a practicing physician. Many members of the medical profession are interested in the study of American Ethnology and Archaeology and not a few have valuable collections of Indian relics and skeletons from Indian graves. Those not directly interested in this study are so circumstanced as to be awarè of the hobbies of their neighbors and could doubtless furnish the address of collectors. Information and the loan of collections for the use of this department of the Exposition are desired. Exhibits which represent study in some special line of Americian Ethnology and Archaeology will be particularly suitable. Communications relating to this department should be addressed to A. L. Benedict, M. D., Superintendent of Ethnology and Archaeology, Pan-American Exposition, Buffalo, N. Y.

PRIZES FOR THESIS ON TUBERCULOSIS.—*The Medical Mirror*, of St. Louis, offers $1,000.00 in prizes, to be distributed as follows: $500.00, $200.00, $100.00, and four prizes of $50.00 each. The following prominent gentlemen have accepted appointment on the committee on awards: Dr. Wm. Osler, Baltimore, Md., Dr. Geo. F. Butler, Chicago. Ill., Dr. A. R. Kiefer, St. Louis, Mo., Dr. C. Lester Hall, Kansas City, Mo., Dr. H. R. Hall, St. Louis, Mo., Dr. Lewis E. Lemen, Denver, Col. Dr. Jos. M. Mathews, Louisville, Ky., Dr. W. W. Grant, Denver, Col., Dr. Thos. Hunt Stucky, Louisville, Ky., Dr. Hugo Summa, St. Louis, Mo., Dr. Walter Wyman, Washington, D. C. Entries close Oct. 1, 1900, and the award is made Jan. 1, 1901, giving the contestants three months in which to prepare their papers and to include clinical reports. The points for consideration in each paper, with a percentage attached, will be as follows: general considerations of the subject, 10; pathology, bacteriology and diagnosis, 20; clinical reports, 20; prognosis and treatment, 35; conclusions with resume, 15. The *Medical Mirror* hopes to develop from this discussion the fact that much more can be done for our tubercular patients than the average practitioner believes, and we are aiming to elicit all facts that may be of value in the treatment of this disease.

DEATHS OF EMINENT MEDICAL MEN—Dr. KARL LANGE, of Copenhagen, died recently at the age of sixty-six years. He was professor of Pathological anatomy at the University of Copenhagen, and editor of the *Hospitals Tidende*, a weekly medical journal.

—Dr. ALEXANDER J. C. SKENE, of Brooklyn, N. Y., died at his summer home in the Catskills on July 4th.

—The death of Dr. ERNEST CADET DE GASSICOURT, of Paris, well known for his valuable contributions to paediatrics. is announced in the *Gazette Medicale de Paris* for June 6th. He was in the seventy-third year of his age.

—JOHN ASHHURST, Jr., M. D., LL. D., died at Philadelphia on June 7th, at the age of 61 years.

THE NATHAN STRAUS MILK CHARITY.—This charity, which was organized in 1893, in a little shed on a dock at the foot of East Third street, now occupies a large two-story building and dispenses during the year from various branches some five hundred and fifty thousand bottles of Pasteurized milk. In order to furnish a food better adapted to very young or sick infants, two new modifications have recently been prepared, one intended for sick infants and the other for healthy infants. The former is a dilution of milk with three times its bulk of water, and lime-water with sugar added, so as to provide a food containing one per cent. fat, five per cent. sugar, and one per cent. proteids. This is dispensed in three ounce bottles. The second new modification, intended for healthy infants of early age, represents two per cent. fat, five per cent. sugar, and two per cent. proteids, also dispensed in three ounce bottles. Another modificaton containing about four per cent. fat, seven per cent. sugar, and two per cent. proteids is dispensed in six ounce bottles. Whole milk is also dispensed in pint bottles. All this milk is accurately Pasteurized in hygienic nursing bottles at 75°C. is rapidly cooled, and is delivered to the branch depots in refrigerator wagons. With each bottle a sterilized nipple is supplied. The milk will be supplied free to any applicant who presents a statement from a physician that she is unable to pay for it. Such applicants must, however, leave a deposit to insure the return of the bottles.

THE REORGANIZATION OF THE NATIONAL RED CROSS ASSOCIATION took place at Washington on July 10th, under the act of incorporation passed at the last session of Congress and approved by President McKinley on June 6th. The American association has been in existence since 1881 under the provisions of the Geneva convention, and for the last twelve years has been aiming at national recognition. At this meeting the old association passed out of existence and a new advisory body was chosen, which will meet to elect officers. The officers of the Red Cross were entertained by Miss Barton at her home in Chevy Chase. The following were elected as members of the new board, the first five named to serve for three years, the second five for two years, and the remaining five for one year: Clara Barton, B. H. Warner, Stephen E. Barton, Mrs. Ellen Spencer Mussey, Walter P. Phillips, of Connecticut; William Flather, W. H. Michael, Samuel E. Jarvis, of New York; A. C. Kaufman, of South Carolina; Joseph Gardner, of Indiana; General Daniel H. Hastings, of Pennsylvania; Mrs. J. Ellen Foster, Mrs. James Tanner, H. B. F. MacFarland and Mrs. Phœbe Hearst, of California.

PERSONAL.—MARRIED: CAMPAIGNE—JUMP. At Saratoga, N. Y., June 22, 1900, Dr. William Nesbitt Campaigne, (A. M. C. '98) and Miss Clara E. Jump, daughter of Rev. and Mrs. M. D. Jump, of Saratoga. Dr. and Mrs. Campaigne will reside at Green Island.

—DR. MINAS S. GREGORY, (A. M. C. '98) has been appointed medical interne at the Long Island State Hospital, Brooklyn, N. Y.

—DR. HOWARD A. LA MOURE, (A. M. C. '00) has been appointed medical interne at the Rochester State Hospital, Rochester, N. Y.

—SURGEON-MAJOR LEWIS BALCH, formerly with the 2d New York Volunteer Regiment and later a Medical Inspector in Cuba, has been invalided home from the Philippines where he has been in service for the past year.

—CAPTAIN-SURGEON LEWIS T. GRIFFITH, (A. M. C. '97) of Troy, stationed with the 7th U. S. Artillery at Portland, Maine, has been ordered to Manila.

—DR. EDWARD G. STOUT, (A. M. C. '96) has been appointed Second assistant physician at the Utica State Hospital to fill the vacancy caused by the promotion of Dr. Torney. Dr. Stout served a year as interne at the St. Lawrence State Hospital, going to Utica as a junior physician, in 1898, and was promoted to be an assistant physician in October, 1899.

—AT a recent State civil service examination for resident physician of the State Industrial School, Rochester, N. Y., six candidates competed and two Albany graduates, Dr. George E. Beilby, '99, late of the Albany Hospital, and Dr. Charles Bernstein, '96, of the Rome State Custodial Asylum, were respectively first and second. Dr. Beilby received the appointment July 19th and entered at once upon his duties.

Book Reviews

The Anatomy of the Brain. A text-book for medical students. By RICHARD H. WHITEHEAD, M. D., Professor of Anatomy in the University of North Carolina. Illustrated with forty-one engravings. 6¼ x 9½ inches. Pages, v-96. Extra vellum cloth, $1.00, net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia, Pa.

This is a small volume giving the outline of the modern conception of the gross anatomy of the brain. It is not an attempt to condense the informaation of a large volume, after the manner of "Manuals" and "Compends," but a description which might appropriately be designated an introduction to the study of cerebral anatomy. The divisions of the brain are considered upon the basis of embryological development, a method too seldom adopted even in new and pretentious works. Hughlings Jackson long ago pointed out the difficulties of explaining diseases upon the artificial divisions of the cerebro-spinal structures, which has persisted so long regardless of their various functions.

A chapter on "The Divisions of the Encephalon" is followed by two chapters on "The Surface Anatomy of the Encephalon," and "The Internal Anatomy of the Encephalon," respectively, the book concluding with an outline of "The Conducting Paths of the Encephalon." A great deal of information is crowded into the seven pages constituting the last chapter, in which the central neurones are explained, and the principal and secondary motor and sensory, the acoustic, optic and olfactory paths are given. The author has succeeded in defining accurately the landmarks of certain deep-lying structures, especially those of the nuclei of origin of the cranial nerves, and it would seem that this feature might have been elaborated by the description of Pitre's sections or some other approved method for demonstrating the topography of the cerebral hemispheres. In fact, the only defect of the book lies in the absence of instruction for dissection.

The medical student who intends to enter general practice usually avoids special subjects beyond the requirements of the examining boards, and the nervous system is apt to be regarded as above the actual needs, wherever the neurologist is available. In presenting the outlines of cerebral anatomy from a scientific standpoint, and within the limits which should be a part of every well-grounded practitioner's knowledge, Dr. Whitehead has rendered a service.

Diseases of the Nose and Throat. By J. PRICE-BROWN, M.B., L.R.C.P.E., Member of the College of Physicians and Surgeons of Ontario; Laryngologist to the Toronto Western Hospital; Laryngologist to the Protestant Orphan's Home; Fellow of the American Laryngological, Rhinological and Otological Society; Member of the British Medical Association, the Pan-American Medical Congress, the Canadian Medical Association, the Ontario Medical Association, etc., etc. Illustrated with 159 engravings, including 6 full-page color-plates and 9 color-cuts in the text, many of them original. 6¼ x 9¼ inches. Pages xvi-470. Extra cloth, $3.50, net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia.

The work on the whole may be considered a valuable addition to nose and throat literature. There are however a few points about the book which are open to criticism, but about which there might be a difference of opinion. Several subjects which usually appear in books devoted to diseases of the nose and throat, are entirely left out of this work. Diphtheria is not spoken of at all, and the frontal sinus merely mentioned. There is no doubt of course, that in the present day of antitoxin treatment of diphtheria, the disease is rather out of the specialists' domain. But it should have a place in a book of this kind, if only for the purpose of going into the question of the differential diagnosis and pathology. Diseases of the frontal sinus, while they may be of more interest to the oculist, should be mentioned, as they are so often caused by some nasal condition. Neither acute primary nor secondary epiglottitis have been specially considered. Acute primary epiglottitis is certainly an important and sometimes a serious condition, and it is surprising that it has not been included. In other respects the book is in every way satisfactory. The illustrations are very good. C. F. T.

Transactions of the Associated Physicians of Long Island. Vol. I. June 1900.

This Society was organized in 1898 in order to bring the members of the regular county societies of Long Island into closer relationship. The volume contains fourteen papers with discussions constituting the proceedings of the first five meetings. The first paper is by Dr. Henry A. Fairbairn on "Prognosis in Chronic Nephritis." He looks upon it very favorably and gives some excellent hints on treatment. Nothing is said of the use of digitalis as a diuretic but this omission is supplied later on by Dr. Gibson in an article on "Digitalis." In chronic heart disease he claims there is nothing uncertain in its use and when given scientifically its action can be foretold with a certainty not excelled by any other medicinal agent. He recommends small doses as a cardiac tonic even in the stage of compensation. When cardiac failure has set in he gives it in cumulative doses. Dr. Lanehart's contribution on the "Treatment of Hip Joint Disease" is well worthy of perusal. The objects to be obtained are extension and immobilization. Dr. McNaughton, in "A Factor in the Preparation of Patients for Laparotomy," strongly recommends the internal use of ichthyol for a few days before the operation. Dr. J. Richard Taylor in "Anæsthesia by Ether and Chloroform" calls attention to the poisonous vapors arising from chloroform when given in the presence of Welsbach lights and gas stoves. There is an index of subjects and authors, the constitution and by-laws, and a list of the members of the Association.

H. L. K. S.

Injuries to the Eye in their Medico-Legal Aspect. By S. BAUDRY, M. D., Professor in the Faculty of Medicine, University of Lille, France, etc. Translated from the original by ALFRED JAMES OSTHEIMER, JR., M. D., of Philadelphia, Pa. Revised and edited by CHARLES A. OLIVER, A. M., M. D., Attending Surgeon to the Wills Eye Hospital; Ophthalmic Surgeon to the Philadelphia Hospital; Member of the American and French Ophthalmological Societies, etc. With an Adaptation of the Medico-Legal Chapter to the Courts of the United States of America, by CHARLES SINKLER, ESQ., Member of the Philadelphia Bar. 5⅝ x 7⅞ inches. Pages, x-161. Extra Cloth. $1.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

This excellent work translated from the second French edition covers its limited field in a very satisfactory manner. It deals with the prognosis of the different injuries to the eye and gives data which will enable the physician in medico-legal cases to express an opinion based upon an extensive experience, Complete histories are given of a number of characteristic injuries and the conclusions drawn are such as meet the approval of the best medical opinion. It is a volume which can be safely quoted and which is bound to take an authoritative position.

Saunder's Question Compends: Elements of Medical Diagnosis. By SOLOMON SOLIS-COHEN, M. D., and AUGUSTUS A. ESHNER, M. D. Second edition. Revised and enlarged. Philadelphia: W. B. Saunders, 1900.

This volume, one of the well known and popular compends arranged in the form of questions and answers, covers very completely the field of internal medicine. The authors have done well a most difficult and what must have been to them a most unsatisfactory task. As distinguished teachers they appreciate how erroneous is a method which induces students to form a mental picture of a disease simply from the enumeration of the symptoms without sufficient pathological explanation of their production. It is too parrot-like for the day of clinical medicine. If the authors had analysed the symptoms of disease after the manner of Leube in his *Specielle Diagnose*, they would have produced a work which would have been as valuable to the physician as to the undergraduate. The description of symptoms is very complete, although no mention is made of Koplik's sign in measles.

Current Medical Literature

SURGERY

Edited by A. Vander Veer, M. D.

Diseases of the Cæcum and Appendix.—By Dr. RENVERS, (*Archiv. f. klin. Chir., Band 60, Hft. 2.*) The old idea that every case of appendicitis should be treated surgically has long since been given up in Germany. The statistics of the internists show a mortality rate of from six to ten per cent., while those of the surgeons show a rate of about twenty per cent., but neither exactly represents the general mortality, for the internist does not see many severe cases, nor the surgeon many mild ones. The question of perityphlitis cannot be settled by statistics.

The writer advises the name appendicitis for affections involving only the appendix, while the involvment of the surrounding parts should be called perityphlitis. As long as the process remains localized, extensive ulcerative conditions may be almost symptomless, provided that the lumen of the appendix is patent, and there is no stagnation of material in the lumen. Such a process can heal spontaneously, and does in many cases. If, however, such an appendix becomes occluded, the course of the disease will depend upon the character of the contents. If the process extends beyond the serosa of the appendix, there occurs an affection characterized by the formation of an exudate, and these affections can be divided into two groups:

1. General peritonitis following rapidly upon acute perforative appendicitis. Operation very early may save the patient, but operation after twenty-four hours does practically no good.

2. Circumscribed peritonitis with exudate formation, and of this there may be two sub-divisions: first, when the exudate is serous or sero-fibrinous, and second, when the exudate is purulent. The formation of the exudate is sometimes accompanied by fever and rapid pulse, and sometimes with marked symptoms. A few days decides the battle between the organism and the infections agents, and in the serous or sero-fibrinous variety the exudate is usually absorbed after eight or ten days. Most cases, however, have a purulent exudate. These cases may recover spontaneously, but have a greater tendency to form abscesses. The writer advises against early operation in these cases because of the danger of infecting the peritoneal cavity in the attempt to remove the appendix. Later when the abscess is well walled off the danger is less. The writer does not consider immediate operation advisable in an attack of appendicitis with exudate formation. It is better to watch the process of the disease, keeping the patient very quiet in bed, allowing the minimum of nourishment, and using morphia freely. If after five days the symptoms do not abate, and the evidences are more marked of abscess formation, then operation is to be advised.

Chronic Ankylosing Inflammation of the Vertebral Column and the Hip Joint.—By Dr. OTTO DAMACH. (*Zeit. f. klin. Med., Band 38, Hft. 4, 5, 6.*) Von Bechterew in 1893 first called attention to a stiffness of the vertebral column, and in 1897 he published another article on this subject. Since the last publication a number of similar cases have been reported, which indicates that the disease is not especially rare.

The writers on this subject consider the nature of this disease sometimes to be a chronic rheumatism of the vertebral joints, sometimes an arthritis deformans, and sometimes an independent disease whose pathogenicity is not understood. Chronic rheumatism and arthritis deformans involve other joints, and are to be distinguished from this idiopathic disease. Von Bechterew called the disease, as he observed it, a stiffness of the vertebral column. Strümpell, from his observations, called it an ankylosing inflammation of the vertebral column and the large joints. It would appear that these are separate diseases. Von Bechterew's stiffness of the vertebral column is characterized by nerve root symptoms and muscular atrophy, and in one case which came to autopsy he found a primary spinal meningitis, which he assumed to be the cause of all the trouble. The ankylosing inflammation of Strümpell is a different disease. It is characterized by bony growths in the vertebra and around the edge of the cotyloid cavity, which lead to an ankylosis, which may unite the vertebræ firmly, and may also cause an ankylosis between the vertebræ and the ribs. Baumler, Marie and Valentini have reported similar observations.

The writer reports a well marked case in which the disease began insidiously at the age of 26. There was at first a stiffness of the vertebral column, which gradually progressed, but was not accompanied by any pain. The stiffness of the hip joint also developed gradually. The disease progressed for about ten years, when it became quiescent, and has since remained so. At present, the entire vertebral column is as stiff as though it was one piece of bone. There is also ankylosis of the ribs to the vertebra. The legs are somewhat flexed at the hip joints, and motion is somewhat restricted. 140° of extension, 90° of flexion, 10° to 15° of abduction. Rotation free. The disease does not involve any other joints, and the reflexes are normal. The treatment has been hydrotherapy and gymnastics.

MEDICINE

Edited by Samuel B. Ward, M. D.

The Value of Urotropin.—J. M. THOMPSON (*Bost. Med. and Surg. Journ., Nov. 16, 1899*) has used urotropin in a variety of genito-urinary affections, and reaches the following conclusions as to its usefulness.

1. It is a urinary sterilizer, antiseptic and acidifier, prompt and reliable in action, moderate in dose, which, if adhered to, renders it both non-toxic and non-irritating to all parts.
2. In virtue of its peculiar affinity for the urine, into which it passes unchanged, and where it parts with formaldehyde, it is apparent that its action in genito-urinary lesions is likely to be complete and certain.
3. Its decisive and lasting effect, especially its comparative singleness of action should give it a place in the list of medicinal specifics.
4. From the observations reported thus far, urotropin has appeared to be most frequently indicated in chronic disease, where it has produced exceptionally good results.
5. In the writer's personal experience the diuretic effect of the drug was not marked enough to render it deserving of claim to such a virtue.

A Rare Localization of Herpes in Croupous Pneumonia.— FRANZ KLUCK-KLUCZCKI in *Wiener med. Wochenschr*, December 16, 1899, reports a case of pneumonia in which the herpes blebs were situated on the tongue. In this case the right lower lobe was affected. On both sides of the lower lips there was symmetrically localized herpes. On the fourth day there was a fresh inflammatory infiltration in the left lung, and at the same time the tongue was covered with yellowish blebs containing slightly turbid secretion.

This was examined microscopically for the diplococcus pneumoniæ, but it was not found. Agar cultures showed the presence of the staphylococcus pyogenes aureus. The herpes on the tongue disappeared at the time of the crisis between the seventh and eighth days. The case is of interest on account of the rare situation of the herpes and because there seemed to be an intimate relation of the fresh infiltration in the left lung to the appearance of the herpes blebs on the tongue.

The Treatment of Whooping Cough with Antitussin.— By Dr. MAXHEIM. (*Berl. klin. Woch., December 11, 1899.*) The writer briefly discusses the unsatisfactory results obtained in the treatment of whooping cough by most of the many remedies recommended. Antitussin is an organic fluorine preparation, and it is used in the form of an ointment. This ointment is composed of five parts of difluor-diphenyl, ten parts of vaseline, and eighty-five parts of lanolin. Antitussin as well as other fluorine compounds diffuses readily through animal membranes. Furthermore fluorine in organic compounds is but slightly toxic. Antitussin is used only externally, and is thoroughly rubbed into the skin from which it is rapidly absorbed. A portion of the anti-tussin, as the ointment is called, about the size of a walnut, is rubbed into the skin three or four times a day. The writer reports sixteen cases of whooping cough in which antitussin was used with most gratifying results. Nine of these cases were in the convulsive stage. The writer also recommends careful dietetic and hygienic measures. He concludes: (1) that anti-tussin has a marked anti-convulsive action in every case, and that the characteristic attacks are much lessened in severity, and the convulsive stage rapidly changes to a catarrhal one; (2) antitussin has a marked expectorant action so that the ordinary tenacious mucus is expectorated easily; (3) the paroxysms of whooping cough become much less frequent, and the duration of the convulsive stage is markedly lessened, and the prognosis is greatly improved; (4) when the whooping cough is treated with antitussin at onset, or shortly after, it will not pass beyond the catarrhal stage; (5) since antitussin is not toxic, there have have been no bad effects observed from its use. The writer has also used antitussin in catarrhal diseases of the larynx and bronchi with excellent results, the expectorant action being most marked.

DERMATOLOGY

Edited by F. C. Curtis, M. D.

The Effects of the Roentgen Rays.—J. HALL EDWARDS (*Edinburgh Medical Journal, February,* 1900), believes that the first authoritative statement upon the "Hurtful Action of the Roentgen Rays" was in a series of articles by Nikola Tesla, who worked with currents of very high voltage. On using a tube having a platinum anti-cathode hurtful effects were noticed. After a few moments' exposure, a tingling and sensation of warmth were experienced; later deep-seated pain was felt, and ultimately the hand became swollen and red; acute inflammation set in; the hair was destroyed, and the growth of the nails impaired. The author used a high tension coil and the majority of the tubes whose effects he observed were provided with platinum anti-cathodes. The parts under observation were exposed for periods varying from a few seconds to an hour, at a distance of from eight to eighteen inches. In exposures of over 2,000 cases ill effects were so trivial, except when it was desired to produce them, as not to be worthy of note. The author cites a few instances of undoubted irritation and trophic disturbance due to the x-ray, and reports three cases of lupus in which the exposure was made for therapeutic purposes. In the first case a patch of lupus upon the foot was submitted to the Roentgen rays by exposure for fifteen minutes to a highly charged Crookes' tube (with platinum anti-cathode) at a distance of two inches. The unaffected portion of the foot was protected by sheet lead, through the centre of which a circular hole was cut. The exposures were repeated at intervals of three days upon four different occasions, and at this time the whole patch was broken down, together with the surrounding skin, leaving a large ulcerating surface. This ulcer was later covered with healthy granulating tissue, and eventually a cicatrix was formed very unlike the scars resulting from other methods of treatment, and this has not since showed a tendency to break down. In the second case, a small patch upon the arm was subjected to a highly charged Crookes' tube at a distance of one inch, the edges being protected by a coating of iodoform in gelatine. The application was repeated on the following day. On the ninth day after the first exposure, there was slight inflammation. During the next two days the inflammation subsided and the pain disappeared, but the greater portion of the patch had sloughed, leaving a raw superficial surface, which appeared to be entirely limited to the diseased skin. Two weeks later the wound was rapidly healing, and in four months the patient was entirely well. In the third case one application was made, and after a more tedious process of ulceration than in the first two cases, a good cicatrix formed.

The writer believes that in the first case far too many exposures were made. In the other two the effects were less severe and the results fully as good. The curious fact about the treatment is the period of inactivity which follows exposure. He believes that the effects are entirely electrical in their origin, and are due to the electrostatic or electrolytic discharges produced in the skin by the near passage of a current of high potential. The results were encouraging, and a more complete knowledge of the length of exposure and of the best after-treatment may lead to a successful issue.

Epicarin, a New Remedy.—By Professor Kaposi, in *Wiener med. Wochenschr., February* 3, 1900. Epicarin is a product derived from creosotin and B-Naphthol. It is a yellowish red powder, easily soluble in alcohol, alcoholic solutions, and liquid vaseline. In Kaposi's experiment a ten to twenty per cent. epicarin ointment was used, and in selected cases a ten per cent. soda solution, or a ten to fifteen per cent. alcoholic solution. The remedy was employed for those cases in which the author had previously determined naphthol to be of service. Epicarin is not irritating to the skin, is not poisonous and has a distinct anti-parisitic and bactericidal action. It was used for cases of scabies, prurigo, herpes tonsurans, ichthyosis, psoriasis, and acute and chronic eczema.

Scabies. Eighty cases were treated. The method consisted in rubbing in a ten per cent. epicarin ointment. After a single application the itching stopped in every case and after a few hours a drying up of the itch mite paths were noticed. The disagreeable subjective symptoms were not present in a single case. The accompanying eczema did not seem to be influenced by the treatment. The solution of epicarin did not have any effect.

Herpes tonsurans. Eighty cases of herpes tonsurans maculosus were treated. In these cases the solutions were just as effective as the ointment, eight to ten applications being usually sufficient to effect a cure, and in fact every case was cured. In these cases too, a single application of the ointment or the solution was sufficient to stop the itching. This was probably due to the action of the remedy on the inflamed vessels and nerve endings.

Prurigo. It was found quite as effective for this condition. Four children from eight to fifteen years old, and three adult males were treated. Four cases were combined with eczema. Patients were able to leave the hospital in from two to three weeks. In some cases the ointment was rubbed into the skin over the entire body. Its non-poisonous properties could be well demonstrated, there never being any albuminuria, as was the case when naphthol had been used in the past. The remedy did not have any effect in either acute or chronic eczema or psoriasis. The author in conclusion recommends the use of epicarin very strongly on account of its non-poisonous properties, and because it can be used in solutions. It frequently may take the place of naphthol.

Autotoxic Dermatitis.—In *La Presse Medicale Belge* for the 14th of *January*, 1900, is reported a case of Dr. BROWNRIGG's of general, acute eczema in a person twenty-six years old, arising without apparent cause and which Brownrigg ascribed to an intestinal auto-intoxication, for the eczema was accompanied by very fetid diarrhœal stools. The affection was rapidly ameliorated under the influence of purgatives and the administration of salol. The external treatment was the usual one for eczema. The patient was for a time put on a milk diet, for analysis of the urine showed an active hyperæmia of the kidneys and intense symptoms of intestinal putrefaction.

PSYCHIATRY

Edited by G. Alder Blumer, M. D.

The Insanity of Married Women—Delusions of the Infidelity of the Husband.—Under the above title, BROSIUS (*St Petersb. med. Woch., 1900, No. 6,*) discusses the forms of insanity of the character indicated, and points especially to the difficulties of the early diagnosis. When a wife thinks or asserts that her husband is unfaithful, it is impossible to show that her belief is morbid. If her idea becomes stronger, and is accompanied by manifestations of jealousy, there is still difficulty in showing that she is under the influence of delusion, and this cannot even be determined when she manifests agitation and enmity and goes so far as to speak openly and to enlist the sympathy of her friends and family. Many such cases are, however, distinctly due to delusion, and in the progress of the disease well-marked insanity develops. The writer cites a number of typical cases, in one of whom there was the characteristic development of paranoia, in which the original jealousy was grafted on delusion. In the progress of the disease, expansive ideas followed upon the depression, which eventuated in fatuity. In another patient the depressive delusions were concealed, the patient showing merely sadness, with increased demonstration of affection for her children and aversion from the husband. In other patients marked religious fervor developed, in others profound melancholy. Hysteria was found prominent as an antecedent.

In respect of prophylaxis, with modern knowledge, the practising physician has not been wanting in admonition and instruction, but so far with no great result. Inconsiderate and hasty marriages occur frequently, in which the tendency to insanity in the wife, and to careless morals in the husband, is prominent. Something may be done by preventing causes of mental excitement, and of vaso-motor vegetative excesses, anæmia and insomnia. Advice may also be given for the prevention of gossip and scandal in the house, and conversation upon topics likely to direct thought in the undesired channel. Sometimes the commitment to a hospital for the insane is unavoidable, and may be followed by good results attributable to the quiet and orderly mode of life, and the removal from the source of irritation, and the surroundings which may have given color and emphasis to the delusions, although these may not have been the main factor in the ætiology of the attack. Upon improvement in a hospital, warranting return to the home, safeguards must be established to prevent exacerbations or recrudescence of the disease.

The Vascular Tension in Insanity.— A. PILCZ (*Wiener klin Woch., 22 March, 1900*) reports the results of investigations upon the blood pressure of insane patients with Gärtner's tonometer. Gärtner has shown that in nervous subjects the excitement attending the examination is sufficient to cause an increase in the tension, and this phenomenon was also noted by the writer in his examinations, with the exception that it did not present itself in cases of general paralysis. The normal blood pressure is stated by Gärtner to vary from 105–130 mm., Hg. In general paralysis it was found that the tension in the early stages varied from 100–110, and that the more advanced the disease, the lower the tension — 50–80 mm., Hg. In the terminal stages the blood pressure was found to be not higher than from 50–80 mm., Hg. During remissions in the course of the disease the tension was found to have returned to the normal. In a patient examined three hours prior to *exitus letalis* the pressure was as low as 15 mm. In melancholia there was invariably an elevation of the arterial pressure, in an uncomplicated case reaching 170–200 mm., Hg. In circular insanity the changes in blood pressure corresponded with the variations in the mental condition; during the melancholy period the reading was high (170), and in the maniacal phase, low (60). In the same individual observed over a period of several weeks and months, differences of from 40 to 50 units in the mercury scale were noted. The writer investigated the conditions during epileptic attacks in one or two cases, pointing out the difficulties of securing an accurate reading during the spasm. He found in one case, near the end of the tonic spasm, a reading of 220, in another, during the clonic spasm, a reading of 150, which sank, during the post-paroxysmal stupor, to 80 and 70, respectively. In a quarter of an hour the first patient showed 135 and the second, 125. Observations taken from a quarter of an hour to five hours after an attack are consequently valueless, in this connection. The writer closes with a brief abstract of the contributions to this subject by Gärtner, Cramer, Craig, Féré, Kapsammer, Wagner and Kornfeld.

OPHTHALMOLOGY

Edited by C. M. Culver, M. D.

The Treatment of Glaucoma by Massage.—Dr. Domec, of Dijon, has an article on this subject in *La Clinique Ophtalmologique* for the 10th of October, 1899. He calls that which he does to eyes, in this connection, pressure massage (*massage pression*). Placing his extended fingers along the patient's temples, he rubs, with the ball of the thumb, the upper lid of each eye over the summit of its cornea The intensity of the pressure is varied. Considerable pressure is made at times, provided it does not occasion pain. In a general way it commences mildly and the pressure is increased, unless the eye is discommoded by it. He says one soon acquires such tactile delicacy as to know when the thumb is opposite the centre of the cornea. On an average, the massage continues five minutes at a sitting. As a rule, the eyes are blurred after the conclusion of the massage, which blurring is obviated by the maintenance of a closure of the lids for those few minutes. He says that the pressure ought to correspond with the degree of the tension of the eyes in question. He reports two cases: In the first it was a miss, 18 years old, examined first in October, 1896. At that time the vision of the right eye was 50% of the average, while that of the left was normal. The right pupil was slightly dilated and the optic nerve disk showed a little excavation. Its field of vision was normal. A collyrium of eserin was advised, and the patient directed to return from time to time. She came again the 19th December, '98. At that time the vision of the right eye was one-quarter the average, while that of the left was two-thirds. The right visual field was considerably diminished, while that of the left was normal. There had never been inflammatory reaction. At this second visit he prescribed eserin and pilocarpin, to be used twice a day, as a collyrium, and began a series of ten massages of light force. Tension of both eyes decreased and visual acuity of the right eye increased considerably, becoming one-half of the average. Massage was discontinued for two months, when the visual acuity of the right had decreased one-sixth of the average amount. The massage was resumed and the duration of each application of it at that time increased to three-quarters of an hour altogether, two sessions, with an hour interval between the two; while, before these, myotics had had no effect in reducing the size of the pupil, at the end of the second session the pupils had resumed their normal size; the tension of the eye, although diminished, was still somewhat high. Between the second session for massage and the end of the fourth, the tension of the right eye had become normal and the visual acuity twice as great as it had been four days previously. A little over seven months after the time when the glaucoma had been at its very worst, and the visual acuity least, the right eye had 50% of the average acuteness of vision, as good as it had been any time since the patient's first visit to Dr. Domec, two years before that.

The author says there is no knowing what might have been the result if an iridectomy had been done at the outset, but he feels sure that myotics never make the visual acuity better than it was when their use was begun.

His second reported case is that of a lady 70 years old. She was first seen by the author the 17th May, '99, four days after a glaucomatous attack, and when her left eye could scarcely count fingers a few centimeters from it. The eye was red, its pupil dilated, the anterior chamber shallow, the cornea dull, the tension of the eye very high and no exact examination of the fundus possible.

Bound not to be too loyal to massage, the author decided to do an iridectomy within twenty-four hours, in case massage did not give assurance of an escape from immediate danger. Not only was the massage well borne (which Dr. Domec says is not so surprising since in all such cases the cornea is insensitive), but the general pain from the condition of increasing tension diminished within one-quarter of an hour. The next day the eye could see somewhat. Before massage, the second day, she could distinguish the two largest letters of Wecker's card and after the massage read the fourth line. There was a rapid amelioration. By the fourth day the cornea was transparent, except in its central portion. That day he instilled a drop of an oily solution of eserin, ½%. It was borne so well and seemed so beneficial that that same afternoon, when the patient was troubled, she sent a child to get some of the collyrium; at which time it caused so much pain that she was certain that the difference was due to the fact that no massage had preceded its use the second time. Thereafter the patient constituted herself a masseuse and thinks herself benefited by it.

The author advises that this be not often done by patients, because massage poorly or too often done might cause traumatic accidents in the case of an eye sick in this way.

Three weeks after the beginning of the treatment the visual acuity of this eye had become 50% of the average and that of its fellow eye, which had never been sick, was no greater.

Just before writing this article the author had seen the patient, when she could read and sew, although some of the former trouble appeared occasionally mornings, but lasted only a few minutes.

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Original Communications

A DESCRIPTION OF A NEW INCUBATOR EMPLOYED IN THE CHILDREN'S HOSPITAL AT GRAZ.

By Professor THEODOR ESCHERICH,

Graz, Austria.

Translated for the ANNALS, with Professor ESCHERICH'S consent, by HENRY L. K. SHAW, M. D., Instructor in Pædiatrics, Albany Medical College, Albany, N. Y.

The number of infants admitted to the Anna Kinderspital has largely increased since the addition of the Foundling Asylum hospital wards. Where so many bottle fed infants are together the dangers from infection are great and special precautions as well as a strict division between the sick and the healthy are necessary. Only under-weight and poorly nourished infants are admitted in certain wards and everything is removed that might in the slightest way prove detrimental to their health. Wet nurses are provided for the very weak babies and the Gaertner *fettmilch* is employed in the artificial feeding. The development and gain in weight in these bottle fed babies are gratifying and at times are remarkable. The children have individual bottles, nipples, thermometers, brushes, and bibs placed in a small cabinet over each bed. This makes a misplacement or change of the articles impossible. Separate wash basins and powder boxes are also provided for each child.

An uncommonly large percentage of infants brought from the Foundling Asylum are weak or premature. The reason for this can readily be understood. In the last half year out of sixty-five received from the Asylum forty-five weighed less than six and a half pounds. It is well known that such children are seriously affected by changes in temperature and react to cold in a very sensitive manner. Incubators are employed to maintain a constant high temperature. Several varieties are used in the hospital of which the best known model is the Lion *couveuse.* This is open to several objections. In order to nurse and care for the infant it must be taken out of the incubator and the child is exposed to dangers from which it should be protected. The first cost is large and it is expensive to keep heated. For these reasons the author decided to build an "incubator room" (*brutkammer*) instead of using a number of single incubators. This was constructed large enough to accommodate several infants and to allow the wet nurses and attendants to enter. The dimensions are: height six and one-half feet, length eight and one-half feet, width four feet. The floor is covered with cork tiles. The entrance is at one end and opens into a small anteroom and a second chamber opens into the main chamber. The necessary amount of heat is furnished by a coil of hot water pipes connected with the house heating system, in which about forty gallons of water circulate. A shelf placed over the coil of pipes supports the infants and their bedding. The temperature is regulated at about 86 deg. F. and electrical contact thermometers signal whenever the temperature falls to 84 deg. F. or rises over 94 deg. F. In the former case the water is heated by a small stove in an adjoining room. The temperature is lowered by opening the ventilators. A large tube conducts fresh air from outside the building to the floor of the chamber underneath the water pipes where it has to pass through an absorbent cotton filter. There is also an apparatus which was invented by Professor Pfaundler by means of which it is possible to control the amount of moisture in the air with much accuracy. This is most important as the mucous membrane of new born infants is very sensitive and regulating the moisture does much to bring about the good condition and contentment which characterize the infants who spend a long time in this room.

A sojourn in the incubator is indicated for children with abnormally low body temperatures. This occurs most frequently in weak and premature infants and in those who have suffered from exposure. The task of the incubator is by no means completed when a normal temperature is restored. The regular degree of warmth and the uniform moisture are of the greatest benefit. The infants are protected from any changes in the temperature and humidity and can move freely and without restriction. Weak new born babies with normal or even elevated temperatures improve markedly by a residence in the incubator. Besides the favorable conditions mentioned above there is an essential advantage in that much loss of energy is prevented. This is shown by a more rapid gain in weight and in greater resistance to infection. The author is convinced of the latter claim by a series of observations and experiments upon which it is unnecessary to enter at this time. The following case will illustrate the excellent service furnished by the incubator in weak children with high temperatures. An infant thirteen days old had elevations of temperature of unknown cause. Its weight was two and one-half pounds (1,100 g.) and the condition was well nigh hopeless. The infant was placed in the incubator under the care of a wet nurse and now at the age of three months has attained a weight of six and one-half pounds (3,200 g.).

No complaints have been made by the wet nurses and attendants who have to enter the high temperature. One wet nurse so accustomed herself that she prefers to remain in the incubator during her free hours.

The most serious objection to this system is the danger of infection. Bacteria and disease material find specially favorable conditions for growth and increase. Some French authors have described this as "*couveuse infection*." We have seen such infection follow the use of a Tarnier wooden incubator. No infection has yet occurred in our incubator room as infants are only admitted after all suspicion of an infectious disease has been removed.

SOME POINTS IN THE MAKING OF A PLASTER JACKET.*

By J. V. HENNESSY, M. D.,
Adjunct Professor of Materia Medica, Albany Medical College.

Gentlemen:—The points which I would bring before the Society in the making of a plaster of Paris jacket may probably be best shown by a description of the jacket which I now present and the way of making it. The first point is how best to make a jacket for a patient whose weight and debility may prevent the ordinary method of suspension from axilla and chin. The patient for whom this particular jacket is made is a girl 22 years of age; weight about 130 pounds. She is suffering from Pott's disease of the lower dorsal vertebrae. There has been complete paraplegia for two years during which, time she was untreated. Several efforts at suspension and the application of a jacket were unsuccessful owing to syncope. Other efforts to apply a jacket while recumbent were of no avail owing to faulty position. There was no stability to her trunk; any effort at a sitting position being out of the question. The mode adopted in this case was to make a form of plaster of Paris from numerous measurements giving width, depth and girth at hips, waist and bust. On this an ordinary knitted cylinder was stretched and the plaster applied as upon the human form. The advantages of this method of making a plaster of Paris jacket are numerous, although the trouble and care are considerable. In the first place certain modifications of form can easily be made as may be seen in this specimen. The dorsal deformity is exaggerated, leaving a considerable space so that the spinal protuberance may not rub against the jacket. Next, extension of the trunk may be increased by increasing the length between the crests of the ilium and the axilla. The waist measurement may be diminished and gradually widened upward, giving the support to the trunk, which is so necessary, and any other modification of form which may, in the judgment of the maker, add to ease or efficiency. Again, a jacket may be applied to a form so built up with ease and deliberation which is impossible with the often tired and moving patient. The other points apply to a jacket whether made upon a form or upon a patient. First the ordinary plaster of Paris roller bandage being used, a jacket is made as under ordinary conditions, except that much fewer thicknesses are employed, the jacket before you being made of probably six or seven thicknesses of crinoline and plaster. This having been allowed to set is cut up in the median line, removed and allowed to thoroughly dry. We then have an extremely light jacket which would certainly have little sustaining power. It is then covered with sheep skin fastened on by applying glue (Page's prepared) to the inner leather surface and to the surface of the jacket. First, a binding about two inches wide covers the cut median edges, then an encircling piece of leather is applied to the upper third of the jacket, the edges projecting above being turned inside and there forming a binding for top. The same is done for the bottom third, these pieces reaching to the median line and extending so as to form a double thickness over the binding in the median line. To this, shoe hooks are fastened for ease in lacing. The leather used is a thin sheep skin of inferior quality, a whole skin costing only fifty cents. The leather, glue and plaster combined form a light, stiff and decidedly durable corset. In certain parts where more strength may be deemed necessary one or more extra thickness of leather may be easily applied as in this jacket, where an axillary pad may be seen under the binding. The patient for whom this jacket is made has worn one exactly similar for eight months, demonstrating its stability and fitness. I do not exhibit this jacket as a finely finished specimen of what may be done with care but only as demonstrating the above mentioned points. The light plaster jacket could easily be made and turned over to someone to do the leather covering when it would probably appear in much better form than this does.

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*Read before the Medical Society of the County of Albany, April 18, 1900.

NURSING AS A PROFESSION.*

By Mrs. HUNTER ROBB,
Cleveland, Ohio

Mr. Chairman, Members of the Board of Trustees and Managers, Members of the Graduating Class, Ladies and Gentlemen:

Until quite recently it has been usual in this country to ask some well known member of the medical profession to make the address to the graduating class of nurses. The fact that your Board of Governors has departed from this custom and selected a trained nurse to assist in performing this pleasant duty is an evidence, I take it, of a desire on their part to show the high appreciation in which this particular branch of medicine is regarded by them, while at the same time the innovation may be looked upon as an indication that nursing has reached its years of experience and that its representatives are now expected to speak with authority on the affairs pertaining to it. In this spirit I have accepted your kind invitation and have now the honor of addressing this, the first class of graduates, to go forth from the Albany Hospital. With these two thoughts predominating in my mind I have selected as the subject of my remarks "Nursing as a Profession."

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*Delivered at the graduating exercises of the Class of 1900 of the Albany Hospital Training School for Nurses, May 10, 1900.

In speaking of the work of the graduate, who has received her training in some one of our best hospitals, nursing has of late come to be spoken of in a general way as a profession. Not only is it not unusual to hear physicians make use of the term, and for members of other professions to confer upon our work the dignity of this title, and even among those of the general public, who have a broad understanding of the subject, are found many who classify it as belonging to the professions. On the other hand, there still remain some among the very conservative, or among those who have not taken the trouble to keep themselves informed on nursing affairs, who still have the impression that nursing consists chiefly in manual labor. Nor is it unnatural that people, who honestly believe this to be true, should proclaim that the old-fashioned nurse is good enough, and maintain that there is no necessity or scope afforded by the work for a high order of education. If these premises were true, it would have to be admitted that nursing has not the first elements of a profession, that the duties required are very simple, that the education of a nurse is complete when she has once learned to wash her patient, make his bed, take his temperature and prepare his food—in fact to do the ordinary duties that any of the old-fashioned nurses were qualified to perform—and that sufficient practical skill in her work can be imparted to her in the sick room without running the risk of spoiling her by demanding from her so dangerous a thing as knowledge, and thus rendering her something more than a machine. If these views are correct, certainly one would justly rank the trained nurse with persons following a trade for a livelihood.

To Elevate the Profession. One however can see many reasons why such opinions should still be held by some—although, I hope, by a very small minority—for the call is not far nor the years many since the day when the work of nursing was relegated to those among women who were not considered desirable candidates for the most menial of domestic work. The history of the events that have brought about somarked a change in the care of our sick is familiar to all of us, but the steps by which nursing has gradually come to be spoken of as a profession—whether deservedly or otherwise—may not be so well known. It may, therefore, not be amiss for us to-day to look into the subject sufficiently to find out upon what grounds the term has come to be used, and how far nurses are justified in appropriating the title; and furthermore, what steps are still necessary to elevate this new profession to its proper position among those which date from long ago. We all know that the tendency of the present day is to bring to a common level all things under the sun. In such a levelling process the proper order of things is not infrequently reversed, so that in some cases things of a low degree have become elevated, while others of high degree have lost something of their dignity and the awe and reverence with which they have previously been regarded has become lessened. As a consequence some of our most time-honored names and titles have not escaped unscathed and among the most conspicuous sufferers are the terms "professor" and "profession." There was a day when to be a professor was to bear one of the most honored of educational titles that a man could have conferred upon him by his fellows, while the distinct social status belonging to a member of a profession was accorded as the right of one to whom had been entrusted more than ordinary responsibility. But to a large extent the glory has departed, so that to-day to be a professor or a member of a profession is not necessarily associated with a great degree of learning or a highly responsible position.

In the Popular Sense. It may be that to many minds the use of the term profession in relation to nursing would only be accepted in the popular sense and that the title would not be regarded as deserving of honor from any high standpoint. For this reason alone it might be suggested that it would be as well for nurses to eschew the title until their worthiness to use it on its highest plane is more clearly demonstrated and until their claims to it are recognized as being beyond discussion. But it must be remembered that the vocations of the clergy, the physician and the lawyer are still held in some degree of reverence and that the term profession as applied to any of these classes of workers still possesses its full significance and implies more responsibility, more serious duty, a higher skill and an employment needing a more thorough education than is required in certain other vocations of life. That at the present time all these demands are made when the woman who undertakes nursing as her vocation is proved by the fact, whenever she falls short of a high standard, she is subjected—and rightly so—to the sharpest criticism, not only from the physician but also from an exacting laity. "To whom much is given from him shall much be required" implies also that from whom much is required to him shall be accorded not only the means for acquiring the knowledge necessary for such duties, but also the recognition that such work is of a high order.

To distingush between the popular idea of the care of the sick and to justify us in our pretentions to the rank of a profession let us consider briefly the demands made upon the nurse by the scientific medicine of to-day. If nursing be the handmaid of medicine the evolution of the latter necessarily implies that of the former. Both must develop on the same lines and for both a careful training is necessary, since the modern scientific methods of medical treatment must inevitably be multiplied unless they are supplemented by the untiring and intelligent service supplied by the trained nurse, who has allotted to her no small part in helping to bring cases of grave sickness to a successful termination. To take only one instance: it certainly requires more than mechanical skill on the part of a nurse to follow the preparations for an aseptic operation—full of significance in every detail—and the saying that "dust is danger" must have a bacteriologically practical application in her mind.

Operating Room Nurse. That the operating room nurse is now regarded as one of the important members of the surgeon's staff is fully demonstrated by the care with which candidates for such positions are selected. Nor can just any one appreciate the full meaning of the physician when he says "the nursing will be half the battle in this case." In fact even the general public has come to recognize the important part that skilled nursing takes in caring for such diseases as typhoid fever and pneumonia, and other forms of infectious diseases, because of the constant and intelligent attention that is needed in such cases in the absence of the physician. To acquire not only the practical but the theoretical part of her work, the nurse must devote three years of her life to special preparation; during that time, besides being taught her practical work, she receives instruction in the principles of nursing by means of lectures and class room demonstrations in anatomy, physiology, materia medica, and massage. To fully appreciate the effect upon the patient of the air he breathes, and the food he eats, she must know something of ventilation, hygiene and practical chemistry. To become acquainted with the best forms and preparations of foods, by which the greatest possible amount of bodily resistance to disease is established and maintained, she must supplement her knowledge of chemistry by a special course of practical work in the diet kitchen. Such matters of detail are usually entrusted to the nurse, since she alone can devote to them the constant and unremitting attention that are necessary. The physician can lay down a broad general outline in such matters but the details—the little things that matter so much—must of necessity be left to the nurse, and this thoroughness is necessary because her knowledge must go far towards supplying that of the physician in his absence. As a physician has truly said: "The hands of a nurse are a physician's hands lengthened out to minister to the sick. Her presence at the bedside is a trained vigilance supplementing and perfecting his watchful care; her knowledge of the patient's condition, an essential element in the diagnosis of disease, her management of the patient is the practical side of medical science. If she fails to appreciate her duties her physician fails in the same degree to bring aid to his patient."

Wider Duties. For the simple performance of nursing work such knowledge is requisite, but when the wider duties of either head-nurse in a hospital or those of a principal of a school for nurses are assumed, where one must not only know, but be capable of imparting that knowledge to others, the responsibilities become proportionately greater. To possess such qualifications one must have a good training as a nurse, for which nothing can be substituted. It means all the difference that lies between the skilled, practiced worker and the amateur; no native tact, no self-sacrifice—it is hard to say it, not even love—can supply its place. Nursing has thus become a matter of scientific discipline and a therapeutic agent of ever-increasing importance. In large part it is this ability that constitutes the difference between the graduate nurse of to-day, and the so-called nurse of former times, and that has rendered trained nursing worthy to rank as a department in scientific medicine. To be sure there still remains and must ever remain the side to nursing so often spoken of as menial; but no duty, however lowly, which is dignified by methods of thoroughness, and unsparing self-sacrifice can ever lower the status of those who perform them. Nor can I recall to mind any duty of a nurse, however trivial it may seem, in which a trained intelligence does not stand for something; in fact I know of no work where a greater range of widely different situations may have to be met, all of which call for a marked degree of adaptability. One day the nurse is busied in the wards of a hospital with all manner of diseases; at other times she finds herself in the homes of wealth and affluence surrounded by ease and luxury, while in the next week she may be summoned to the homes of the poor, to combat against dirt, want and ignorance added to disease, in which the most trying and disagreeable of tasks may be required at her hands; nor do the camps of war or the hot-beds of pestilence call upon her for aid in vain. Nursing, thus, makes great and varied demands upon her followers and exacts in no small degree the qualities of skill and tact, endurance and patience, which must be strengthened by enthusiasm.

The Higher Responsibilities. Can a woman, in any other kind of work she may choose for herself, find higher and graver responsibilities? Where human life and health are concerned, what shall we term the little things, or the menial duties? The spirit in which she does it makes all the difference. Invested as she should be with the dignity of her profession and the cloak of love for suffering humanity, she should ennoble anything her hand may be called upon to do, and from work done in this spirit will her true recompense come to her far outweighing that of silver and gold.

But the nurse is also essentially an instructor, and her mission includes the prevention of disease as well as the relief of those already suffering from its ravages. In district nursing we are confronted with conditions which require the highest order of work, the actual nursing of the patient being, perhaps, a minor part of her work when compared with the influence for practical good exerted by the nurse upon those with whom she is brought in contact. To this branch no more appropriate name can be given than "instructive nursing," for educational, in the best sense of the word, it should be.

In the trained nurse then the public is by degrees coming to recognize a person of peculiar position and usefulness in the organization of society. She has her place—the wonder is that she has been so long in coming to it—she is no longer the willing hand of the pitiful heart, the soother of the fevered brow; she is far more, for to the willingness of the hands she has added experience, while to the pity of the heart she has added knowledge thus increasing an hundredfold her power for good. No longer can she with justice be regarded as a better trained, more useful servant, but as one who has knowledge and is worthy of respect, consideration and proper recompense as being in a certain degree a member of a profession.

There are some of the essentials in nursing by which it has come to be looked upon as a profession,—sufficient truly, did we all possess them, to rank us high among those established in bygone centuries. Wherein, then, do we fail to meet these high obligations? To begin with the nurse is only mortal and must of necessity share some of the infirmities of her fellowmen which prevent the accomplishment of perfect work. But surely everything should be done to minimize these imperfections and one crying evil, which calls loudly for reform, may be mentioned here.

No Standard for Nurses. Unfortunately at present there exists no legally recognized standard for nurses; there is no law similar to those dealing with the medical profession, which requires that a trained nurse shall have spent a certain definite time in a recognized general hospital, that she shall have had certain definite instruction in special studies and methods relating to the care of the sick, that she shall be required to pass specified examinations, and shall hold a certificate, before she is lawfully entitled to practice her profession. As a consequence, we find schools for nurses established in all kinds and conditions of hospitals, all grades of instruction given and all manner of women practicing both in and out of hospitals. If a pupil is dismissed for cause from a high grade school, it will be usually found that she is accepted into some other school, where they are glad to get any one to do the nursing work, whence in due course she graduates as a trained nurse; worse still, who can prevent her from beginning to do private duty at once and from posing as a hospital nurse? With hundreds, or indeed thousands, of these so-called nurses claiming sisterhood with those who have spent time and money and strength in preparing themselves for their work, and with the sometimes imperfect nursing of the regular graduate, what wonder that the name and the presence of the trained nurse do not always carry with them the sense of confidence and comfort that should legally belong to them? So long as we are without some recognized standard to which each so-called trained nurse should be required to come up, so long shall we be unable to qualify as forming a profession, for the criticisms so often heard are in the main just; the levelling process brings all down, the competent nurse being confused in the minds of the public with the inefficient and the woman of commercial mind.

I am sure that even the best among us are ready to acknowledge our imperfections, and the steady hard work that has been done in the past ten years and the continued effort towards improvement shows a healthy dissatisfaction, which augurs well for the betterment of the future nurse, and proves that we at least appreciate the fact that for the care of the sick every year a higher training is being surely and steadily demanded, and that only a high order of woman can meet these requirements.

A Code of Ethics. But it still remains for me to speak briefly of another phase to nursing, without which the professional side would be dead and spiritless. A well defined code of ethics is also one of our needs as a profession. From this ethical standpoint nursing is a *calling* and should be a consecrated service, performed in the Spirit of Christ who made himself of no account, but went about doing good. The women who fail to bring this spirit into their work, miss the thing of greatest value that is to be found in it, and too often prove deserving of the criticism that the life is apt to make a woman hard, cold and mercenary. The scientific, the educational side is important, and can hardly receive too much consideration, but equally with it should each nurse see to it that the spirit of love for the work's sake is fostered and developed; for if this be neglected we can never hope to possess a professional code of an eminently practical and helpful nature.

In these few words I have endeavored to bring before you some of the responsibilities and privileges that each of you and all other graduates assume. Remember that this high conception of our work carries with it the obligation that every individual by her actions and by her personal character shall maintain its dignity untarnished. To bring to it any less than the very best that is in you will cause it to sink in the eyes of the public and bring discredit both upon it and upon you. Let each member of the first class to graduate from the Albany Hospital see to it that she takes away with her and jealously guards an individual high standard and interest in her work without which she can never justly claim to be a member of the profession of trained nursing.

ADDRESS TO THE GRADUATES.*

By A. VANDER VEER, M. D.,

Professor of Surgery, Albany Medical College.

Mr. President, Ladies and Gentlemen and Graduates of the Albany Training School for Nurses:

I believe this to be a day of rejoicings and congratulations on the part of the citizens of Albany. Regarding myself, I wish to express my feelings of gratitude for the joy I experience in being present and occupying the position I do, hopes realized and prayers answered.

During the past forty years it has been my good fortune to witness the development of woman's work in many new fields, and in all these new departures I have seen her faithfully fulfilling her mission. I believe she is fitted for many spheres of activity but partially occupied at present, and I am frank to say that in no profession is woman able to do so much for the world at large as in the field of skilled nursing.

On the very ground we occupy to-day, twenty-eight years ago, within a few days, I witnessed the first beneficial effect of female nursing in the care of the sick and wounded soldiers of our, then, Civil War.

At that time I had a very vivid recollection of the early work done by the revered Florence Nightingale, during the Crimean War. How well do I remember the praises and credit then shown her by the civilized world.

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*Delivered at the graduating exercises of the Class of 1900 of the Albany Hospital Training School for Nurses, May 10, 1900.

Later I had an opportunity of witnessing the kind attention given to our soldiers by patriotic women in charge of large military hospitals, in field hospitals, and even up to line of battle itself.

After the close of the war it was my good fortune to observe the work of the intelligent, educated nurses in many of the hospitals abroad, and in our own land.

It created in me a great desire to have a training school in connection with our own Albany Hospital, but that desire was not fulfilled until your present Board of Lady Patronesses was organized, and to them—their efforts being endorsed by the Board of Governors—are we indebted to-day, in seeing the fruition, and full development of our hopes. Congratulations, therefore, are to be extended to the Board of Governors, and especially to the Lady Patronesses for their liberal contribution of funds, and their indefatigable industry in organizing and supporting this school.

Congratulations are due our superintendent, for her success in aiding to bring the school to its present high plane.

Congratulations must be extended to the people of Albany and surrounding country upon so good a school having been organized, fully abreast of, and embodying all the modern ideas and rules that control the well-regulated institutions of to-day, which are to supply us with the best and most conscientious nursing.

Congratulations to the medical staff of lecturers who have instructed so earnestly, and now see the good results of their labors; to the other members of the medical profession, who are to have the privilege of introducing into the sick rooms of their patients kind, faithful, well-trained nurses.

And last, but not least, congratulations to you young women, who comprise the first class graduated from this well-equipped school. You have now presented to you, in the exercises of to-day, with your diplomas, that which entitles you to go forth in your chosen profession, to battle against disease in all its forms, to afford comfort, hope and cheer to the saddened household, to bring back to life's duties many whose light of life would have gone out but for your skill, and to reap, somewhat, the encouragement and credit of your many years of hard work. I say your profession, for I am earnest in emphasizing this. It is a profession and should be recognized as such by the State; a profession that requires the very best woman, and the best of that woman. That the profession of nursing is an honored one is shown by our own Capitol in history. Between Mollie Pitcher and Clara Barton is the medallion of Mrs. Spencer, the famous army nurse of Oswego.

We are now trusting our patients, and our loved ones, to the care of the trained nurse in a manner that one would hardly have believed possible fifteen years ago. We should see that you are properly trained, properly instructed and qualified for your work.

Few in this audience know so well as myself the courage and perseverance that has been required on your part to entitle you to graduate as a trained nurse.

From probationer to pupil student, from pupil student to junior, from junior to senior year, from senior year to head nurse in charge of the wards, from head nurse to night superintendent, and assistant superintendent, I have been a careful observer of your faithful work, and watched you amidst your many cares and anxieties.

How little the public will ever know of your disagreeable duties as probationer and pupil student! How your cares and responsibilities increased as you became full-fledged students! How as assistant and head nurses you realized more and more what a world of responsibility you were assuming, and when as special nurses you had the full care of the precious life entrusted to your keeping! I can bear witness to your weary, anxious look, when some recent case for days and sleepless nights had taxed your physical and mental strength to the utmost. I can also rejoice with you, as you look back and remember how this, and many another patient recovered, as the result of your watchfulness, and untiring efforts.

You have listened to a most admirable address by one fully competent, and who is an authority in your profession. I shall not attempt to add to what she has already so well expressed. There are, perhaps, two or three points from my professional standpoint that may not be amiss. Remember you should ever realize that "health is your capital." "Make it your study and establish faithfully your worship. Without health you cannot work, and certainly cannot do justice to those who are suffering, and under your care." It has been well said that "attention to health is not selfishness." "Labor and rest are twins, and respect to health laws is quite different from self-coddling. Mental health is as necessary as physical, for it conduces to the latter; unless the worker goes cheerfully to her task she becomes worn out, for it is a detriment to have a mind troubled with many things."

"Another kernel of advice is to be businesslike," and which applies with great force to the profession of nursing. "There is a conviction among men that women are unpunctual and irresponsible." Nursing may be made congenial, but it is not to be taken up lightly and those who become paid workers must put away all thought of sex and realize that in a contract "value received" relates to both parties. "One of the most important principles of business is promptness, another energy, another ambition, and an untiring zeal that is willing to sacrifice the lighter things of life and expend all time and strength upon work." "What becomes of my social position," ask those who have not had their fill of accustomed gaities? "The question settles itself by change of taste. Caste is not lost by earnest employment; the world of society is not cruel enough to turn a woman off because she has taken up a serious and obvious duty, but she needs her time and strength for her work, and so there comes divergence of interest, and separation from all save the choicest friends. But the compensation lies in the fact that the pleasures of labor are keener than those of indolence, and the lives of workers are full and rich past comprehending by the unitiated."

To nurse the injured back to health, to cool the burnings of fever, to stay and allay the pains of disease is a work worthy the noblest efforts of humanity, and a pleasure to those of fine sensibilities and sympathetic hearts.

The intelligence of the nurse is one of the important factors in her future success. From year to year as new fields are opened up more is required of the nurse; more responsibility is thrown upon her. As I have stated in a previous address, she is becoming a large factor in the evolution of the hospital, and also in the evolution of modern surgery.

While it is true that theoretical work is very important—as it must and does develop the woman—yet it can also be truly said that with the advanced educational requirements in the profession of nursing, which are so essential, a practical course of study, and experience in modern hospital work, becomes absolutely necessary.

How much we owe those who have given so liberally to this noble institution and its humane purpose! But for the interest manifested in this hospital by the citizens of Albany, you, who about to go forth from its doors to-day, would not have the pleasant memories you now possess of your Alma Mater.

Work, good work, both by physician and nurse, has been accomplished in the face of difficulties that did not promise well for the patient, but to you have been given opportunities of having duty made pleasanter, work more congenial, results the best, because of your modern methods of instruction.

Friends in abundance you have made among those to whom you have ministered, pleasant memories of your instructors, because of the desire on your part to achieve the best capable in your profession, and although there must, necessarily, have been unpleasant episodes during the years spent in daily, yea! hourly toil, yet in the time to come teacher and pupil will look back with pleasure and interest to your Alma Mater.

The best wishes of all connected with the Albany Hospital Training School for Nurses go with you in whatever direction your chosen life's work may take you.

"Go labor on, spend and be spent,
Thy joy to do the Master's will."

ADDRESS AND PRESENTATION OF DIPLOMAS.*

By Hon. WILLIAM L. LEARNED, LL. D.

Young Ladies of the Graduating Class:

The school which was organized in connection with this hospital for the training of nurses is now about to graduate you, its first class. By the instruction and the practice which you have had you have been fitted, in the judgment of your teachers, for the very important duty of nursing the sick. How important that has become in modern times you know better than I do. The discovery of the need of the utmost cleanliness in the sick room, and the whole subject of aseptic treatment have given an importance to the office of the nurse which it did not formerly possess.

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*Delivered at the graduating exercises of the Class of 1900 of the Albany Hospital Training School for Nurses, May 10, 1900.

The days of the nurse caricatured by Dickens in "Sairey Gamp" have gone, never to return; and the nurse has taken her place close to that of the physician and the surgeon, their services may sometimes be even more valuable than theirs. For it must be acknowledged that our friends, the doctors, are somewhat given to experimenting upon us, while your course of treatment is substantially the same, alas. They have a mania about making an experiment on a worthless body—and I fear that they consider all bodies as worthless!

Into this important, this sacred position, you are about to enter, a position where human life may depend upon your faithful care and may be sacrificed by your forgetfulness or neglect. Feel deeply the responsibility which rests upon you. Slight mistakes or a little carelessness on your part may cause evil which will fill the rest of your lives with deep remorse.

The border of the seal of this school has the words: "I was sick and ye visited me." Remember that more words are followed by these: "Inasmuch as ye did it to one of the least of these, my brethren, ye did it to me." So when you stand by the bed of a patient keep in mind that your care is expended not merely upon the poor human body before you, but that it reaches that Divine life which once bore the sufferings to which we are subject. So should you be patient with the unreasonableness of the sick and endure your own weariness without complaint.

For doubtless times will come to you when the continued care of the sick and suffering will be felt in its effects on yourselves; and the monotony of life will be experienced. It may then be said without some such thought as I have suggested, to maintain constantly a cheerful and pleasant demeanor in the rooms of sickness. Yet you must strive for this. And your own pleasing mood and happy spirits may be for those under your care a better tonic than can be bought at a druggist's. And as in the early days of Christianity, the shadow of St. Peter passing by brought health to the sick who had been laid along the streets, so shall your mere presence bring to your patients a breath of comfort and consolation which shall revive their fainting strength and arouse hope in their desponding hearts.

In the hope that such may be your experience, it gives me pleasure on behalf of the training school to present you your diplomas.

THE REPORT OF A CASE OF GASTRIC ULCER, WITH PRESENTATION OF POST-MORTEM SPECIMEN.*

By J. L. ARCHAMBAULT, M. D.,
Cohoes, N. Y.

This specimen was taken from a post-mortem held at the Cohoes Hospital on July 27th last.

It is a question whether the case should be called one of "Gastric Ulcer," or should not rather come under the head of "General Ulcerative Gastritis."

As you see, there is, at the left upper segment of the diaphragm, a fair sized opening, oval in shape, leading into a sort of diverticulum.

Close by, at a distance of about three centimeters, and midway between this large ulcer and the pyloric orifice, there existed a second ulcer, not quite the size of a ten cent piece, typical by its round shape, and having perforated through.

But, at the same time, aside from these two principal lesions, the gastric surface is studded with a multiplicity of well circumscribed necrotic processes, which deserve almost to be taken as the characteristic feature of the case.

These minor ulcerations—you see how numerous they are—vary in dimension from the size of a split pea to that of a finger nail. They almost effect a sort of regular arrangement, being disposed in two trails which converge towards the pylorus. They are, for the most part, situated on the inner wall.

As you may observe, the perforating ulcer and the large ulcer with its retro-cavity are also occupying its lesser curvature and the posterior surface of the stomach, only in closer proximity to the pyloric orifice than any of the other ulcerations.

In the minor ulcerations, the loss of substance involved the mucosa and submucosa down to the muscularis, at least in many of them, but in the round ulcer the necrosis extended through and through, while in the larger ulcer it extended to the serosa, stopping short of perforating this membrane, and allowing it to stretch into a sort of pocket. This pocket is now so retracted as to give no correct idea of what its size and dimension were at the time of the autopsy. It appeared then as if it could lodge the yolk of a hen's egg. The capacity of this recess will be, later on, insisted upon for a possible explanation of some of the confusing symptoms which arose from time to time in the course of this protracted case.

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*Read before the Medical Society of the County of Albany, November 15, 1899.

I regret not to be able to demonstrate upon the specimen the exact condition obtaining at the pylorus in its relation with the perforating ulcer.

When the piece was prepared, part of the pylorus was inadvertently sacrificed, and an incision carried from it to the perforating ulcer, thus converting them into one gap. I can therefore only mention that this orifice was markedly stenosed, in fact to the point of not admitting a sound over No. 30 F.

How this stenosis occurred is readily explained by a further inspection of the specimen, keeping first in mind the intimate relation of the two large ulcerations to the pyloric orifice, the round ulcer being the nearest. Below the base of these two ulcers, especially around the oval ulcer, which is unquestionably the oldest, there is a great increase of interstitial and fibrous tissue; the callous margin of the ulcer shows well the sharp reactive inflammation—probably repeated—set up by nature in the periphery of the ulceration and in all the surrounding parts, in its attempt to repair and heal the damage wrought by the necrotic processus. The throwing out of this connective cicatricial tissue resulted in the organization of a broad and thick retracted band, which extended in one direction to the pyloric orifice, including its organic elements, and in the other clear across the posterior wall of the stomach almost to its full extent. It is readily seen, by the way it puckered up this large segment, how it gradually distorted, drew upon and choked up the pyloric orifice.

A last point, worthy of note, is that, notwithstanding the extent of the disease and its long duration—as will be now shown by a rapid review of the case—this stomach was but moderately dilated, not enough to obtain the splashing sound, although this test was diligently sought for, even three days before death.

The history of the case—partly taken from the hospital record, partly given by the attending physician, Dr. Montmarquet, and partly from my own notes—may be presented as follows, that is in its broad lines, for an accurate anamnesis could not be attempted, as the notes were not taken so as to be a daily record of the case.

Eulodie B., aged 43. Family history: father, brother and sister died of tuberculosis. Personal history: single, mill-operative, now passed menopausis for over two years. In 1886, when in her 30th year, gave birth to a male child (which lived five years), and sustained during labor a partial perineal laceration. In 1890, consulted Dr. Montmarquet for fistula in ano, the fistula having undermined the right periphery of anus and formed a large cloacum; was operated, in October of that year, by the doctor and myself; the extensive wound gradually filled up with granulations and healed, but was followed by partial incontinence of feces. While operating, one's mind was naturally directed to inquire whether the rectal affection was not of tuberculous nature on account of the family history, but no evidence could be had of the existence of tuberculosis elsewhere, and, as just stated, the extensive wound healed kindly.

In 1894, patient applied to her physician for the relief of some form of uterine trouble, and was strongly advised to have her rectal incontinence corrected.

While under treatment, she began to suffer from digestive troubles, which consisted principally of flatulence and uneasiness after meals; later on, occasional vomiting was added to this. In time, the spells of vomiting became more frequent and the distress much aggravated, and although there appeared ameliorations from time to time, these periods of quiescence were, again and again, interrupted by fresh attacks, which became more violent and of longer duration, and during which patient was subjected to ever increasing pains and sufferings, requiring for their relief frequent recourse to opiates. Finally, patient made up her mind to heed her physician's advice, and she entered the Troy hospital.

Here, after a careful consideration of her case, her stomach trouble was thought to be of a reflex nature and sympathetic to her uterine, and especially her rectal condition. Accordingly, a double plastic operation was performed by Dr. Harvie to restore both the perineum and the anal sphincter. Both operations were successful and resulted, namely as regards the rectal one, in perfect control being regained by patient over the intestinal function. They were also successful in another way, for—from the moment patient was operated, and was meanwhile put on the strict restrictive hospital diet of such operative cases—she ceased vomiting and being otherwise distressed with her stomach. Her stay at the hospital covered some seven weeks, during which she never had a single return of pains, although her diet was gradually changed, improved upon and increased. Such a result decidedly substantiated the view taken of the case being purely one of intense neuropathy, and patient was discharged, being considered well.

This hospital treatment was followed by a long period of improvement; patient felt well, free from pain, and she daily gained in weight and strength.

In the winter of 1896, however, that is, in a little over a year, the previous trouble began again. Patient suffered with cramps of the stomach, eructations, water brash, regurgitations, sour taste in mouth, and vomiting,. This attack continued for several weeks, required the usual exhibition of morphine, and then gradually abated.

Patient, who, from this attack, had become quite reduced, was regaining her strength when a second attack occurred in the following May. At this time, patient was confined to her bed for six weeks, and her physician kindly called me in consultation.

When I saw her, she presented the picture of a very sick woman. She looked pale and emaciated. Since the beginning of this attack, she had vomited repeatedly, and had suffered from obstinate constipation. The vomitings had no special order in their occurrence; sometimes a short time after meals, sometimes hours after, sometimes repeated frequently, sometimes only once in a day. The first vomiting would always be insipid and consist of a watery fluid mixed with particles of food, then it would become sour as if formed of acid chyme or gastric juice, and lastly it would also at times be bitter on account of the admixture of bile;

at other times, it would simply be a frothy and scanty mucus. So it occurred while I was there. The pain, which was described sometimes as burning, sometimes as gnawing, made itself almost constantly felt with, or only a short time after, the ingestion of food. The pain always preceded the vomiting, and would likewise occur sometimes simultaneously with it. It would at times be relieved by vomiting, at times not. Upon examination, the whole abdomen was found to be soft, relaxed and pliable, and the pain to be referable to an area rather large situated between four and six centimeters below the ensiform cartilage, and movable under manipulation sometimes to the right and sometimes to the left of the linea alba. This pain was always increased on pressure and appeared to correspond to an ill-defined oblong semi-solid body, the displacement of which explained why an area of pain somewhat circumscribed appeared rather large. The presence of this tumor had attracted the attention of my confrère, and during the several weeks that he had been on the watch for it, he had noticed that some day it would easily be made out, and some other day altogether evade detection. At present it would readily roll under the finger.

Taking into consideration the age, the cachectic appearance, the general syndrom of the case, especially the presence of this tumor, and although there had been at no time blood or coffee ground material in the vomiting, although no splashing sound, indicative of gastric dilatation, could now be produced, the conclusion arrived at was that the condition in the case was presumably one of malignancy, and that a rather near future would likely settle that point beyond all doubts.

My next opportunity to study the case was six months later, December 28th. During the interval, the condition of the patient had not materially changed. She had passed from periods of relative comfort to periods during which she had been afraid to eat on account of the severity of her sufferings. The subnutrition incidental thereto had increased her anæmia and cachectic appearance. It is about this time that her menses ceased, that this suppression be considered either as a result of natural menopausis or as an amenorrhea due to her state of profound cachexia. She was now suffering from an unusually severe attack. The vomiting, which had taken place without any special cause, especially not as the result of the ingestion of anything of a particularly indigestible character, was of the nature already described: first indigested food, then quantities of clear liquid with mucus. The vomiting had been preceded by violent pains situated midway between the ensiform cartilage and umbilicus, and which increased more and more until vomiting occurred. These vomitings again contained neither clear bright blood nor coffee ground material. Once, only, some of the mucus appeared slightly striated, but this was attributed to the violence of the dry retching. An inquiry as to the further progress of the gastric swelling revealed the fact that this swelling had neither enlarged nor become indurated and nodulated. In fact, if anything, it was more ill-defined than six months before. This was a serious drawback on the theory of carcinoma of the stomach, and a "change of venue"(?) was at once effected.

This time, a "plea" for intestinal tuberculosis was entered in the "case." This hypothesis of tabes mesenterica, already conjecturable from the family histoy, seemed to receive support from the general doughy condition of the abdomen, which created the impression that the mesentery was becoming studded with diffused glandular enlargements, and from the fact that now and then of late patient had had spells of coughing, the cough being frequently accompanied by mucopurulent expectoration. The examination of the chest did not, however, reveal anything very pronounced in that line, except that the respiration was harsh in right apex, front and back, with somewhat prolonged expiration and a relative flatness on percussion as compared with the left. Possibly, tuberculisation was here in its incipient stage. From lack of better information, inasmuch as we could no longer sustain a diagnosis of cancer, and that the symptoms did not appear to apply to other gastric affections, namely to the gastric ulcer, of which the most characteristic symptom-complex was wanting, the diagnosis of the disease being tubercular was maintained. The tubercular processus was believed to interfere with the function of the stomach in some way or other, not readily explainable, and which closely resembled a case which occurred three years before in practice, in which the symptoms for a long time were all gastric, with general running down, culminating, however, in the appearance of an enlargement at the margin of the left short ribs, which looked like an enlarged spleen, but later on proved to be a tubercular mass at the upper part of the greater curvature of the stomach. In the course of time, the case developed pulmonary and general tuberculosis; colliquative diarrhoea and marasmus ultimately carrying off the patient. Dr. Vander Veer and Dr. Hun, who both saw that interesting case, will know well whereof I speak upon my mentioning the name of Miss Marion H., of 226 Remsen street, Cohoes.

In pursuance of this new diagnosis, a modification of treatment was suggested, the main point being to find out of what benefit the use of creosote could be in the case. Strange to say, under this treatment, the patient felt somewhat better, and for the third time her pains, vomiting and other symptoms entered gradually into a state of quiescence.

For all of a year and a half, although she was never well and would reappear month after month on the sick list of my confrère, with mitigated returns of her old complaint, patient had none of her former attacks of "grandmal." She was remaining the very same patient she had always been, with the special unmistakable feature that she was not becoming a particle more tuberculous!

Meanwhile, the Cohoes hospital had been opened, and it dawned upon the patient's mind that she might find there the relief sought for in vain in private practice.

She was admitted at the hospital on February 6, 1899, and registered as a surgical case.

I found her the same identical patient I had seen her two years before. Her plastic operations on the vagina and rectum had stood the test of time; it did not appear that reflexes could any longer arise from that direction. The examination of the chest proved negative, at least as to any advance in the few slight problematic symptoms noticed before. The examination of the abdomen also proved negative. There was decidedly none of the characteristics of tubercular peritonitis. Hence, again, was to be abandoned a diagnosis which had been much cherished!

Not long before entering the hospital patient had vomited for several days, but the stomach was now quiet. Under careful and repeated palpation, nothing could be made out in the region of the old swelling, but a greater resistance and thickness, as if the whole gastric wall was uniformly hypertrophied. This thickening extended from the pylorus to about one-third the usual dimension of the stomach. It could be partially moved and displaced, and this without eliciting much distress on the part of the patient. Thus, the cardinal symptoms of the case—vomiting, pain, soreness on pressure, tumor—were all wanting. Decidedly the case was too confusing as well as too interesting not to deserve the closest and most careful attention, and henceforth it was subjected to daily observation, every member on the staff being requested, from time to time, to study the case and compare notes.

An agreement was soon reached from all sides that the case did not offer the characteristics of either a cancerous or a tubercular affection; but "what it was" remained an open question.

In the absence, however, of all symptoms referable to our previous diagnosis, and remaining with that sensation of resistance and thickening across the epigastrium as the only actual objective symptom, the diagnosis was indeed narrowing down to very few possibilities. Two were now in mind; either that a gastric ulcer had existed, healed and reopened at different times, leaving a cicatrix accountable for the resistance detected in that region; or that the case was one of those rare cases which Quain and Wilks have called "fibrous disease of the stomach," and Habershon "fibroid degeneration of the stomach." In 1896, Perret presented on this subject his exhaustive *Thèse de Lyon :* "De l'estomac biloculaire." In those cases a sclerotic hypertrophy of the walls of the stomach supervenes to a chronic gastritis, terminating in constrictive atrophy of the organ, or in stenosis of the pylorus, or in both.

In 1893, I had occasion to follow a case of this rare disease, and I might be pardoned for referring briefly thereto. By the obscurity and the indefiniteness of its symptoms, that case not only disconcerted for a long time my most assiduous observation, but it also baffled the skill of two keen diagnosticians; one giving a reserved opinion of cancer; the other, of pure neurosis. After a year of endless sufferings, which more and more pointed to the true nature of the disease, especially as regards a state of sclerotic degeneration, the autopsy (in which Dr. Bell assisted me) verified the diagnosis.

The stomach was hour-glassed. The constriction which gave the stomach its peculiar shape was at about the middle of the organ, dividing it into a cardiac stomach and a pyloric stomach, each cavity of the capacity of eighty to one hundred cubic centimeters. The tubular connection between the two was about seven centimeters long and barely allowed two fingers to pass through. The stenosis at the pylorus would not admit the tip of the small finger. On the surface of the mucosa, the villosities were very prominent with a net-work of enlarged vascular arborisations, but nowhere could any trace of cicatrized tissue, such as from old ulcer, be detected. The stomach wall was in some places over two centimeters thick.

The possibility of the case being one of this kind, or simply one of healed gastric ulcer, was submitted to my colleagues and discussed. Neither favor nor doubt were expressed.

Pending better knowledge, the question became at least one of procuring patient all the comfort possible, Directions were given to enforce a sort of "Leube's rest-cure." Patient was strictly confined to bed, and restricted to an absolute diet of milk and water. To combat the high degree of acidity complained of whenever, she said, she would be reduced to milk, the nurse was instructed to give patient one gramme of soda bicarbonate three times a day, after the ingestion of milk. At the same time, it was suggested to the patient to take those powders most faithfully as they were a rather recent treatment, which had in similar cases proved very successful. This worked very well indeed. Patient expressed her satisfaction and comfort; she soon regained desire for food and beg for a change in diet, which was sternly denied. In short, patient remained in hospital from February 6 to April 10—nine weeks—and not a day was a chance offered to clear up the diagnosis. Once, in her second week, she took a cold, which did not disturb her stomach, but caused her to cough and raise. We had been looking for this expectoration; it came, muco-purulent in nature, but examined bacteriologically, it contained no Koch's bacilli. This point at least was cleared up. Otherwise, she repeated her very experience of the Troy hospital—that is: she had not a vomiting, not a pain; she appeared to digest well, her bowels became regular, she improved. Not once could that epigastric tumor, felt by myself in the past, and by her physician again not very long before her admittance, be detected. More than ever did her case become enigmatic, and she was finally discharged with a blank diagnosis.

Was it possible, after all, that the case could simply be—as it had been once thought of—one of pure neurosis, in which hysteria the great *simulator* was playing a large part?

On the 21st of July, that is, three months after her leaving the hospital, her physician requested me to see her. She was having one of her "spells," and the doctor had plainly felt the epigastric swelling, fully the size of, say, a small hen's egg. Indeed, there it was, only not quite as big now, said the doctor, as it had been two days before. Yet, it was very plain, highly sensitive to touch. There had been the usual vomiting, frequently repeated, and the pain had required rather large doses of morphine for its relief. The question of an operation was at once freely discussed, and the patient agreeing to it without hesitation, she re-entered the hospital the following day. Three days later, she was seen by Dr. Harvie. The lump was there no more, and no splashing sound of the gastric region could be produced. The doctor fully agreed, however, that at least an exploration should be performed. The next day, I examined her while she was being prepared by the head nurse. She had had a restless night; a little milk and vichy, which she had taken, had distressed her very much; the gastric region was very tender; and the tumor could again be easily mapped out—by the nurse as well as by myself. Patient looked anxious, careworn and leipothymic. She was to be operated upon on the day following, July 27th. She passed away suddenly and quite unnoticed during the night.

The autopsy, held twelve hours later, soon revealed what had taken place. The round ulcer, close to the pylorus, had perforated into the peritoneal cavity, and death had occurred from shock.

There is little doubt that this round ulcer had been the last in date in the evolution of this multiple ulcerative gastritis; that it had probably been the signal of the attack which had preceded her first admittance at the Cohoes hospital; that, by the rest-cure enforced then, it had partly cicatrized, and that it suddenly reopened, ushering in the final attack.

There is no doubt either that the large oval ulcer was the first of the series; that it antidated by some length of time the admittance of the patient at the Troy hospital; that it was co-incident to, and independent from, her rectal trouble; and that improvement in the gastric symptoms and their apparent cure were not incidental to the operative measures, but to the restricted diet and rest-cure enforced at the same time—there as later on at the Cohoes hospital.

The long period of rest, which followed, must find explanation in the cicatrization of this primary ulcer. The reparative processus, however, was not *ad integrum;* it was imperfect, limited, most peculiar, and a great effort on the part of nature—as shown by the callous margin, the retractile band, and the formation of the retro-pocket.

That a breaking down of the cicatrix of the old lesion might have occurred in the subsequent attacks is a matter of hypothesis; some of those attacks, especially the lesser ones, might have been owing to the formation of a consecutive number of the minor ulcers.

One point certainly beyond question is the formation of the retro-pocket during the period following the stay at the Troy hospital, for it was at the next attack, in the winter of 1896, that the tumor was noticed for the first time.

This tumor seems to be in some way accountable, with its undefined resistance and character, with its periods of presence and absence, if we grant its production and disappearance to certain states of the retro-pocket. This pocket would tumefy through the ingress of some of the alimentary bole into the diverticulum, and collapse as this would be emptied back into the main organ. It is likely that the callous ring of the ulcer (much smaller, as you see, than the retro-pocket and resembling a straight to an interior bay) contained enough retractile fibres to enter into spasmodic contraction and offer a barrier to the exit of the contents of the pocket. This retention was also likely favored by the slower chymification of the substances (especially as regards milk curds), that had ventured there, than in the main organ, the digestive power of this pocket, formed of adventitious tissue, being undoubtedly inferior to that of the stomach, even in its diseased state.

Thus it was that, in the very last days, this pocket filled and emptied twice, presenting and discarding at one day's notice the palpable evidence of a tumor in that region. And, yet, this evidence, much sought for, was of secondary importance, because all this time, it was the other more concealed and treacherous lesion which was speedily winding its way to a fatal termination.

As characteristic an illustration of gastric ulcers as this specimen may be considered — in fact, I do not know that one could wish for anything more typical—none will deny that the case is far from presenting a characteristic history of the disease. The clinical evidences do not appear in bold relief, as one would expect them with such lesions. At no time does the case offer what the French call "*la grande triade symptomatique:*" pain, vomiting, hæmatemesis.

The patient never vomited blood; or, if she did, it was unnoticed by herself and her physician. One cannot consider as an hæmatemesis the slight blood-stain which once striated the mucus rejected. There is a possibility that blood, in small quantity, might have passed through the digestive canal, changed in such a way as to be unrecognizable. But there is certainly no evidence of any momentous hemorrhage having occurred and having been discharged either way, such hemorrhage as you would expect in a case with ulcers of the dimensions here observed. Thus, is the case deprived of the most characteristic symptom, which, when present, becomes the most certain sign of gastric ulcer.

The pain, also, although most intense at times and a conspicuous feature of each attack, was not what you would call typical. While it always preceded the vomiting, or at least was concomitant with it, it was not always relieved by its occurrence; it would vary very much in its appearance as regards the ingestion of food; it was not referred to an area as circumscribed as you expect from the gastric ulcer; you could not spot it, so to speak; when you would try to define it, in employing manipulation and pressure, it would always cover a fairly large area—which, of course, you might now explain by the multiplicity of the lesions. Furthermore, it never became complicated with the dorsal pain of Cruveilhier, which is rather surprising, when you consider the location of the ulcers mostly from the lesser curvature and upon the posterior wall, and when you consider also that this dorsal pain is pretty sure to arrive sooner or later in the course of the great majority of such cases.

In fact, I can hardly remember a case of my own practice where it failed to complicate the epigastric pain. I have actually under observation a case where it became the dominant and most striking feature. I take now particular pleasure to refer to it as twice it came under the personal observation of Dr. Vander Veer; the first time in October, 1897, in consultation with my friend Dr. Featherstonhaugh, who, during my absence, had kindly taken charge of the case; the second time, as recently as last June, when, after seeing the patient at his office, the doctor wrote to me: "I fear your patient, Mrs. B., is not entirely well of her ulcer, and her case remains one of considerable anxiety at the present time."

Well, this anxious case—a prototype of the kind of pain you are to meet with in gastric ulcer—is nevertheless one in some respects like the one under consideration.

It never presented hæmatemesis. Two days in succession during the first attack in 1897, at a time when the patient had vomited a great deal and was now simply retching, the scanty mucus brought up contained a few red streaks. This was not considered as having the character of an hemorrhage. It never recurred in any of the subsequent attacks.

As to the vomiting, frequent in that first attack, and having extended over a number of days, it usually occurred but once or twice at each return of the disease, and this rarely before twenty-four hours after the first symptoms of pain. Food would then be rejected which had been ingested forty-eight hours and more before, and pretty much in the state in which it had been ingested. In some of the minor attacks, vomiting failed to take place.

But to come to the pain I had especially in mind to speak of, it was always severe, and at times so agonizing that it would not be subdued with less than five centigrammes of morphine in hypodermic; and once, it required eight centigrammes before it let up at all. This pain was absolutely characteristic. "It is there, doctor, there!"—and the patient would point with her finger to a small area, a mere spot, situated less than an inch below the xiphoid process and a little to the right of the median line. It never deviated form its original location.

In time—that is, in the second attack—this pain became complicated with the *dorsal* pain. This dorsal pain, to which Cruveilhier has attached his name, has been described by him as being generally felt to the left of the spine, at a point corresponding to the eighth or ninth dorsal vertebra. In this case, it was not felt to the left, but to the right, on a level with the inferior angle of the scapula, and midway between that angle and the spine. This particular localization might have been suggestive of the case being one of duodenal ulcer, instead of gastric ulcer, had not such a view been disproved by the other symptoms. Like the epigastric pain, this dorsal pain never shifted away from its fixed seat. In every consecutive attack it never failed to recur, and in some of them it was so intense as to entirely supersede the other pain. As it increased in severity, the posture assumed by the patient during her crisis became modified in a peculiar manner. While at first she could never recline, but used to sit up erect, bracing herself with her arms folded over the back of a chair, like one suffering from intense orthopnœa, she would now bend forward, with a pillow across her stomach, until her head would touch her knees; and in this position she would remain until the euphoria induced by the anodyne would come to her relief; any attempt to recline back before that would promptly aggravate her torture.

The constant recourse to this peculiar position led naturally to infer that, in this particular case, the location of the ulcer—although it is conceded that most frequently we remain in doubt as to the exact site of a gastric ulcer—was presumably high up on the posterior wall near the lesser curvature. Adding to this that both pains, the anterior and the posterior, were to the right, and that the vomiting was always slow to occur, seemed also indicative of this location not being distant from the pylorus. Of this, however, we have fortunately no positive evidence, as the patient is yet living and has apparently got well.

When I say that she has got well, I mean that for over three months she has had no vomiting, has been free from pain, and can now thrive on an ordinary diet, a thing she had never been able to do since her first attack two years ago. As a matter of fact, at no time since that attack had that woman been able to put into her stomach over one hundred and twenty grammes of food at a time without being distressed; a very remarkable intolerance, attributable either to the irritative state and situation of the ulcer or to a possible atrophic condition of the stomach. In June, even that small amount could no longer be tolerated with any possible comfort; a further reduction in the quantity of food ingested at a time had to be enforced, and nutritive enemata resorted to. By the middle of July, patient left for Saratoga, where she usually passes her summer. The only thought then that suggested itself was that the case would soon be ripe for an exploratory incision, and possibly for such a surgical procedure as the Heineke-Mikuliez's pyloroplasty.

Meanwhile, the patient had been put on the nitrate of silver treatment and was carrying it out faithfully, although it appeared slow in action and was accepted in distrust, owing to its utter failure in the first attack to give relief, although it had been tried in three successive times, the cure then being without doubt effected by the icebag, the chopped ice, the food enema and the complete "rest" given to the stomach. In Saratoga, an enforcement of this latter measure was sure not to prevail, but the nitrate of silver was there, and it "did the work."

I have, unquestionably, a great confidence in the use of the silver nitrate in the treatment of gastric ulcer, and of the modes of treatment now most in vogue—the nitrate of silver and the large doses of bismuth—I would give without hesitation the preference to the former.

As early as 1840, Hudson of Dublin advocated the use of silver, but it is conceded, I believe, that it was Gubler who, about 1869, fixed the attention of the profession on this subject. Although familiar with Gubler's work, I am free to admit that it is in 1880 that I received the strongest impression as to the value of the silver treatment through a lecture delivered, in this very hall, by Dr. Vander Veer, in which the doctor pointedly demonstrated the good effect of the silver treatment in several cases; one especially being noteworthy on account of the obscurity of its symptoms, which led to a variety of medical opinions being given in the case in this country as well as abroad.

Since that time, besides the case of Mrs. B., I can recall several instances in which the silver treatment or the change from the bismuth to the silver have served me well, and I will mention one case, most typical on account of its gravity and of the heroic dose of the remedy employed.

This was in August, 1887. Patient, Miss E. S., 28 years old, had had two attacks before, in December, 1877 and September, 1883, both especially characterized by blood vomiting. This time the hæmatemesis was appalling. The patient was literally bloodless, and about pulseless. My friends, Dr. Featherstonhaugh and the late Dr. Boudrias, were in the case with me. Everything had been done; ice *intus et extra*, hypodermics of ergot, ether and whiskey, nutritive and stimulative enemata, etc., etc., to no effect. Blood was coming up all the time, and the collapse becoming more and more pronounced. Patient was now given one centigramme and a half of silver nitrate and one drop of beech wood creosote in acacia mucilage every hour, and this for two days, thence at longer intervals, and finally three times a day. Under this combination, the hæmatemesis and vomiting gradually subsided, patient rallied, recovered, and has remained well since. I have no knowledge of such doses and of this combination having ever been employed.

In the case of Mrs. B., I want to acknowledge that, in her last attack, it is due to the insistence of Dr. Vander Veer that the silver treatment was again resorted to, my hesitation in the matter having for support the repeated intolerance and failure of that agent in the former attacks. This time, as said before, it proved to be true to itself.

When I go over the whole subject, and satisfied as I remain of the importance of the silver treatment, it is a source of regret to me that, in the case related to you to-night, a better understanding of the symptomatology and a clear diagnosis were not arrived at early, the opportunity being thus lost to give to the case the benefit of the "silver issue."

56 CONGRESS STREET.

In Memoriam

HEMAN CHAFFEE, M. D.

Dr. Heman Chaffee, one of the oldest and most highly respected citizens of Tolono, Ill., died May 22, 1900, aged 83 years, 11 months and 4 days. He had been suffering for several months from ailments incident to advanced age but a severe attack of heart trouble was the immediate cause of his death.

Heman Chaffee was born June 18, 1816, near Rutland, Vermont. In 1837 he went to Poultney, Vt., and was married May 5, 1840 to Mira A. Noble. Later he removed to Troy and while residing there he attended the Albany Medical College, graduating December 26, 1854. After practicing medicine with his brother, Nathaniel, for a short time they both decided to go to Paris, France, that they might have better advantages in surgery. After spending a year there he returned to Troy, N. Y., practicing a short time in that city, after which he decided to move west, and located in Tolono.

In the death of Dr. Chaffee, Tolono has lost one of its most prominent figures. He was one of the first settlers of the village, having resided there constantly for 43 years, and had been identified with the growth of the city from its earliest infancy. He endured many hardships in the early years, riding over the prairies when there were no fences or roads to guide him.

Dr. Chaffee was a gentleman in every sense of the word, and his death will be mourned by all who knew him.

Medical News

Edited by H. Judson Lipes, M. D.

CHIEF SURGEON OF THE U. S. FORCES IN CHINA.—The *New York Tribune* for August 5th contained the following concerning the recent appointment of chief surgeon in China together with an excellent portrait of Dr. Hoff:

Major John Van Rensselaer Hoff, of the Medical Department of the army, who has recently been ordered from his station at San Juan to duty as chief surgeon on General Chaffie's staff, has also been chosen by the authorities as the ablest and best fitted officer in the corps to organize an effective medical service and to establish a field hospital in the immediate vicinity of the scene of operations near Peking or Tien-Tsin. This excellent officer, whose father, Major Alexander H. Hoff, was also an eminent member of the medical corps of the army, has had important and responsible places for the last two years, his service as chief surgeon, Department of Porto Rico, since October, 1898, being especially important and praiseworthy. The whole population of this island—900,000 people—has been thoroughly protected by vaccination, and most important sanitary reforms have been started. Major Hoff's position as head of the Relief Committee of Porto Rico and his success in meeting the demands made by the extensive destitution following the hurricane disaster of last year, have been particularly remarkable. He was born in New York in 1848, and was graduated at Union College and the Albany Medical College in 1871. On June 22 of the following year, he went into the army as an acting assistant surgeon, and served until October 19, 1893. He was graduated from the College of Physicians and Surgeons, New York City, in 1874. On November 10 of the same year he was appointed first lieutenant and assistant surgeon of the army and was promoted to the rank of captain five years later. He was again advanced in June, 1891, to be major and surgeon of the army. In November, 1874, when young Hoff first received his commission, he was ordered to duty in the Department of the Platte, serving until November, 1879. He was then transferred to Fort Monroe, where he was stationed from February, 1880, until May, 1882, and thence to the Department of California, where he remained until 1887. He was next ordered to duty in the Department of Missouri, from April, 1887, to October, 1892, from which department he was transferred to the Department of the East in October, 1892, remaining until November, 1896. He was then ordered to duty in the Department of Columbia, and stayed there until he started for Porto Rico on October 25, 1898.

BEQUEST TO THE GENEVA (N. Y.) HOSPITAL.—The Geneva City Hospital of Geneva, N. Y., will receive $10,000 by the will of Judge Francis O. Mason. Upon the death of two sisters of the deceased the hospital will receive $80,000 additional.

AN ASIATIC WOMAN A DOCTOR OF MEDICINE.—The first Eastern woman admitted to the licenses of the Royal College of Physicians and Surgeons, Ireland, received her diplomas last week. The lady is a Parsee named Miss Aunnie M. Treasurywala and she appeared at the capping ceremonial in the full costume of her caste. It is said that she made a most brilliant examination for her final, having been the only candidate who passed with honors.

A MILLION-DOLLAR HOSPITAL FOR ST. LOUIS.—A bill authorizing the construction of a million-dollar hospital in St. Louis, to replace the structure destroyed by the recent cyclone, has been approved by the City Council and has passed its first reading in the House of Delegates. Plans have been formulated for a very extensive modern hospital.

THE COHOES (N. Y.) HOSPITAL LEASED.— The Common Council, of Cohoes, N. Y., have leased the city hospital of that town to the local hospital association for a term of fifty years, at a yearly rental of five dollars. The lessees are forbidden to assign the lease or to sub-let any of the buildings or land without consent of the Council. They are required to receive all patients sent by the city at a rate not to exceed the amount charged by the city hospitals of Troy and Albany for similar cases. They are not compelled to receive patients afflicted with contagious diseases. The city has power to abrogate the lease on the violation of any of its provisions by the lessees.

"REVISTA DE MEDICINA TROPICAL." — This new monthly journal of Havana, published under the editorial management of Dr. John Guitéras, formerly of the University of Pennsylvania, and Dr. Emilio Martinez, assisted by Drs. Charles Finlay, Raimundo Menocal, Vicente de la Guardia, and Enrique Saladrigas, made its appearance in July, 1900. The first number contains an introduction by Dr. Guitéras and some abstracts from foreign journals, but no original articles.

"JOURNAL OF SURGICAL TECHNOLOGY."—A new monthly journal has made its appearance under the above title. Typographically it is a perfect example of the printer's art, consisting of sixty-four large octavo pages, fully illustrated. This periodical will be devoted to the pure technique of surgical procedures. In a compact form will be given an epitome of the new and progressive inventions of instruments and appliances made throughout the world during the preceding month. The subscription price will be $1.00 a year. Address the Technique Publishing Co., 404 East 14th street, New York city.

AN ISLAND FOR SEGREGATION OF LEPERS IN THE PHILIPPINES. — General MacArthur has convened a board of officers of which Major L. M. Mans, surgeon, U. S. army, is president, to select an island in the Philippine archipelago for the segregation of lepers, to prepare plans and estimates for suitable buildings thereon, and estimates of salaries for the necessary officials and employees. The board is also charged with fixing the ration and other allowances for the support of this leper colony. This action was taken in view of the large number of lepers in the Philippines, now under no restraint and a constant menace to the public health. It will be remembered that the army authorities are in Puerto Rico on a small key to the north of that island, while in Cuba the lepers have been carefully collected at the San Lazaro Hospital, near Havana.

THE "MEDICAL STANDARD'S" COLLEGE NUMBER.—The August, 1900, number of the *Medical Standard* appeared in a very attractive new cover and is styled the "College Number." Educational problems of to-day, the condition of medical matters in times past, and the problems for the future were discussed editorially. A paper on "Medical Colleges and Universities," was presented by Dr. I. N. Danforth, of Chicago. Dr. Alfred S. Burdick, also of Chicago, discussed "Perspectives of Medical Men and Medical Progress during the XIXth Century." Other papers of special interest were as follows: "The Development of Medical Education in America," by Dr. W. F. Church, of Chicago; "Woman in Medicine;" "Sectarian Schools;" "The Cost of a Medical Education;" "Chicago as a Medical Centre," and many others. The paper on "Medical Centres of the United States" was profusely illustrated, portraits of representative men from all the principal medical colleges of the United States appearing.

PRIZE AWARDED DR. KNOPF.—The international prize of 4,000 marks offered by the Berlin Tuberculosis Congress for the best popular essay on "Tuberculosis as a Disease of the Masses and How to Combat it" was awarded to Dr. S. A. Knopf, of New York City. The committee of award was composed of some of the best known clinicians and sanitarians of Germany, among them being v. Leyden, B. Fränkel, Gerhardt and Lenthold. There were eighty-one competitors. According to the terms of the competition, the German committee for the erection of sanatoria for the tuberculous will publish the essay in a cheap form for popular distribution. Dr. Knopf already enjoys a wide reputation as a worker in this field, and to him was awarded in 1898 the Alvarenga prize of the College of Physicians of Philadelphia for an essay on "Pulmonary Tuberculosis, its Modern Prophylaxis and Treatment in Special Institutions and at Home."

MANHATTAN STATE HOSPITAL AT CENTRAL ISLIP.—This new colony for the insane of New York City located at Central Islip, Long Island, will soon be ready for occupancy. The Lunacy Commission expect to open this institution for 1,200 inmates early in the fall and by the first of April, 1901, the remainder of the pavilions will be ready for 1,100 additional inmates. Fully completed, this immense pavilion colony will cost over a half million dollars.

A HOSPITAL FOR TROPICAL DISEASES IN LIVERPOOL.—From the *Journal of Tropical Medicine* we learn that a hospital devoted to the treatment of tropical diseases is about to be founded in Liverpool. The hospital is to be erected in memory of the late Miss Mary Kingsley. Many handsome contributions towards the fund have been promised; amongst others Mr. A. L. Jones has given £1,000, and Mr. Blaize, £500. The creation of a hospital for tropical diseases in Liverpool marks a new era in medical education in this country. The Seamen's Hospital Society's branch at the Albert Docks is largely devoted to this purpose, but it shows that the subject of tropical medicine is attaining a still greater hold on the country when a hospital is to be especially built and devoted to this important department of medicine.

Cancer and Consumptive Hospitals at Buffalo.—The hospital for consumptives on the almshouse farm of Erie County, N. Y., was recently destroyed by fire. The County Board of Supervisors have approved plans providing for two one-story stone buildings to be erected on the site of the burned structure. One of these buildings is to be devoted to the care of consumptives, while in the other, cancer cases will be treated. The plans will now be passed upon by the State Board of Charities, and if approved by that body bids for the erection of the buildings will be advertised. The idea of including in the plans some provisions for dipsomaniacs was discussed, but was finally dropped on the ground that it was an open question whether the courts have a right to send a dipsomaniac elsewhere than to a jail or penitentiary; and for this reason any hospital intended for dipsomaniacs should be connected with, or at least near, the jail. It is hoped that the new hospital structures may be got under roof before winter.

The Mississippi Valley Medical Association.—At the next annual meeting to be held in Asheville, North Carolina, on October 9, 10 and 11, under the presidency of Dr. Harold N. Moyer, of Chicago, the address in medicine will be delivered by Dr. I. N. Love, of St. Louis, and the address in surgery by Dr. Charles A. Weaton, of St. Paul. The association will not be divided into sections. The sessions will be held in the Battery Park Hotel.

The American Association of Obstetricians and Gynecologists.—Under the presidency of Dr. Rufus Bartlett Hall, of Cincinnati, O., the thirteenth annual meeting of this Association will be held in the Assembly room of the Gate House, Louisville, Ky., September 18, 19 and 20, 1900. Besides the president's address, numerous papers will be presented. On the provisional program are found the names of Drs. Joseph Price, of Philadelphia; John B. Murphy, of Chicago; Robert T. Morris, of New York City; A. Vander Veer and W. G. Macdonald, of Albany; Charles A. L. Reid, of Cincinnati; L. S. McMurtry, of Louisville, and many others.

The American Electro-Therapeutic Association.—The tenth annual meeting of this association will be held at the Academy of Medicine, Room 44, 17 West 43d street, New York City, September 25, 26 and 27, under the presidency of Dr. Walter H. White, of Boston. The reports of the standing committees on scientific questions will be read on the morning of the first day. Monday afternoon the delegates will visit Telephone Central and also the Automobile Headquarters. At four o'clock there will be a discussion on "Electricity in Tuberculosis and Present Modes of

Treatment." The scientific session on Wednesday morning will be opened with general discussions on "Electricity in Gynecology and the Present Reluctance of Gynecologists to Use Electricity." Many papers of value will be read on the several subjects of interest. Headquarters are at Hotel Bristol, corner of Fifth avenue and 42nd street.

First Steps in Medical Reciprocity.—At a regular meeting of the State Board of Medical Examiners held at Newark, New Jersey, July 5, a resolution was adopted that the board will hereafter endorse the licenses of any state board of medical examiners in the United States, in lieu of an examination, provided that the candidate for endorsement shall present satisfactory evidence of having the academic and medical education required by the New Jersey State Board, and that the license presented for endorsement shall have been issued after a state examination of the same grade and kind as that required in New Jersey.

Diphtheria Bacilli in Well Persons.—The Massachusetts Association of Boards of Health has addressed the following circular to the State Boards of Health for each State: "At the regular meeting of the Massachusetts Association of Boards of Health on July 19, 1900, a committee was appointed consisting of ten members, including five executive officials and five bacteriologists, to consider and report on the matter of well persons carrying diphtheria bacilli in their throats or noses, with the view to the formulation of recommendations for official procedures in such cases. It is evident that the whole subject of diphtheria, both from the executive and bacteriological standpoint, is of great importance and that uniformity of procedure throughout the country is desirable. In order to determine the best and most satisfactory procedures at present in practice throughout the country, it has been thought well to address the enclosed series of questions to the various Boards with the request that answers, as full and complete as possible, may be rendered and the completed schedule returned to the secretary at their earliest convenience. Appreciating the fact that State Boards have often advisory powers only, we ask that the questions be nevertheless answered in such a way as to indicate what they advise in the executive control of this disease and that they will also indicate the practice in the municipalities of their own states, pointing out those which they endorse most highly." The questions anticipate all conditions which might arise in both private and hospital practice and if carefully answered no doubt much good will result in a more systematic study of the care of persons suffering with this disease as well as more thorough preventative treatment.

An Obstetrical Fraud.—A French contemporary relates an instructive story of a young physician who was visited by a woman presenting the external signs of pregnancy. She engaged him for the approaching confinement and left. A few months later the physician was summoned to his patient, only to find the infant not only born but washed and dressed. He was gently chided for his slowness in responding to the summons, and was requested as a particular favor to call at the registration office for the purpose of registering the birth. Anxious to re-establish himself in the good graces of his patients, the physician did as requested, leaving the house without examining either mother or child. We may judge of his surprise and dismay, when some time after, he was prosecuted by the State for aiding and abetting in a fraud by having made a false declaration as to the birth of the child. It turned out that his patient had not been pregnant and consequently had not borne a child, but had presented her physician with a supposititious one and made him an ally in her attempt to fraudulently acquire some property. Fortunately for the young man, M. Brouardel interested himself in his case and the prosecution was dropped; but the fraud is one against which, in its protean form, the young and inexperienced practitioner requires to be put on his guard.

Current Medical Literature

SURGERY

Edited by A. Vander Veer, M. D.

The Polyadenomata of the Large Intestine.—By QUENN and LANDEL, (*Revue de Chirurgie, April, 1899.*) This is a condition in which multiple adenomata develop not only in the rectum but extend along the entire surface of the large intestine sometimes as far as the ileo-cœcal valve. This condition is to be differentiated from that in which one has a very few solitary polyps developing in the rectum. The writers report 2 cases observed by themselves and have collected 40 cases from the literature. In 13 of the 40 cases the polypous condition was confined to the rectum. In 13 cases it extended throughout the entire large intestine as far as the ileo-cœcal valve. In 9 cases the rectum and colon were involved. In 3 cases the entire intestine as well as stomach and in 2 cases the colon only were involved. The seat of predilection is thus the lower part of the large intestine. The polyadenomata may vary in size from a pin head to a pigeon's egg. Their usual size is from a pea to a cherry. Their form is variable. The outline is irregular and they may be sessile or pedunculated. They are generally of a grayish reddish color and the consistency is soft. Histologically they are composed of glands of the mucosa and connective tissue. In some cases the glands may be transformed into retention cysts. There is often more or less atrophy of the uninvolved mucous membrane. The polyadenomata develope from the normal mucous membrane and all stages of their development can be traced.

A fact worthy of a special notice is the frequent transformation of the polyadenomata into definite carcinomata.

This occurred in 20 of the 42 cases reported. The carcinomata appear to develope some time after the polyadenomata first make their appearance. The carcinomatous change is found to occur at the periphery of the polyadenoma which is the oldest portion of the tumor. At the base the growth will often be found to be a pure benign adenoma. Unlike the single adenoma or polyp which occur most frequently in young individuals, the polyadenomata are an accompaniment of more advanced age. Nearly half of those on record occured between the ages of 16 and 30.

The etiology is not understood. The three chief symptons are diarrhœa, hemorrhage and pain. The diarrhœa is marked—15 to 25 stools in 24 hours—and it is but slightly susceptible to medication. The diagnosis is made positive by a rectal examination when the polyps can usually be seen or felt.

The treatment is medical and surgical; medical to check the diarrhœa, surgical to remove the diseased portion. If the involvement is not too extensive the involved intestine can be resected. Curettage gives temporary relief but is of no permanent value. Artificial anus or intestinal anastomosis to shut off the affected area often gives relief. Most of the patients die sooner or latter either from the cancerous change or from anæmia.

Gonorrhœal Rheumatism.—In a communication to *The Lancet* (*November 25, 1899*), Christopher Heath writes: "The treatment of gonorrhœal rheumatism by the usual methods is notoriously tedious and unsatisfactory, but I have found that by applying belladonna and glycerine freely to the affected joint (usually the knee) and by giving quinine in five-grain doses every six hours, at the same time paying no attention to the urethral discharge and carefully avoiding the use of splints, I am able to get my patients up in a fortnight and out in three weeks, with perfectly movable joints supported by an ordinary bandage."

Gangrene Complicated by Glycosuria.— C. S. WALLACE (*The Lancet, December 30, 1899*) records twenty-six cases of diabetic graugrene, admitted to St. Thomas' Hospital during the last eleven years, and these tend to prove that there is no essential difference between so-called diabetic and senile gangrene. Microscopical examination of the arteries, when made, showed the invariable presence of arterial disease to account for the gangrene, and the average age of these patients was under sixty years. The following conclusions are presented:

1. It yet remains to be proved that true gangrene (excluding death from acute specific processes which may occur in any subjects at any age) occurs in diabetic patients unaccompanied by such arterial disease as would of itself produce the gangrene.
2. Glycosuria may or may not precede the gangrene, but is not usually accompanied by other signs of diabetes.
3. Septic wounds may produce a glycosuria which vanishes when the septic process is removed.
4. Individuals suffering from septic processes are often on the borderland of glycosuria.
5. Gangrene may aggravate a pre-existing glycosuria.
6. Arterial disease is sometimes that which accompanies, or is produced by chronic renal disease.
7. It has yet to be proved that neuritis can produce any gangrene comparable to that of the so-called diabetic gangrene.

8. The best chance of recovery is offered by removal of the limb near the trunk and this measure should be undertaken before the patient is reduced by septic absorption.

9. The presence of glycosuria may be an indication instead of a contra-indication for operation.

PATHOLOGY

Edited by George Blumer, M. D.

Researches on Amyloid Degeneration. — Obrzut in the *Archives de Medecine Experimentale* for *March,* 1900, discusses the subject of amyloid degeneration, particularly in relation to the origin of the amyloid. He takes it for granted that the intimate relations which exist between the vascular system and its connective tissue on the one hand, and amyloid degeneration on the other, are so well proven that no further discussion of them is necessary.

His experiments had for their object to find out whether the amyloid substance was deposited between the cells of the blood vessels just as it is deposited between the liver cells, or whether the cells of the blood vessels actually underwent degeneration. As a result of his exhaustive study of a large number of cases he comes to the conclusion that the elements which give rise to amyloid are present in the blood, that they infiltrate between the cells of the vessel walls, and are not due to a degeneration of these cells, and that they originate from the red blood corpuscles. According to the author the method of origination from the red blood corpuscles is not always the same. In some instances the corpuscles are directly transformed into amyloid and in other instances the transformation to amyloid is preceded by a more or less marked breaking up of the red blood corpuscles.

Hypertrophy in Length of the Tongue.—Girod in the *Gaz. de Hop., March* 3, 1900, reports a remarkable case of elongation of the tongue. The disease followed an attack of meningitis at the age of ten years. The patient had been almost an imbecile since this time. The tongue began to elongate immediately after the illness and now at forty-three years of age was so long that it prevented speech entirely and seriously interfered with mastication. The organ so filled up the mouth that it had altered the shape of the palate, forced forward the teeth of the upper jaw and caused those of the lower jaw to drop out. The patient had to speak by signs. There was no increase in thickness or breadth of the organ and the surface was normal looking. The author comments on the great scarcity of the affection, there being only four or five poorly described cases on record.

The Epidemiology of Malaria from the New Standpoint. — Celli and Delpino briefly discuss in the *Cent. f. Bakt.* for *March* 10, 1900, the relation of malaria outbreaks to the life history of the anopheles which they believe is the carrier of the infection. They show that practically all cases of malaria which occur during the winter or early spring months are recidives of the disease in people who have been previously infected.

On the other hand new cases do not appear until the third quarter of the year during the time that the anopheles is in its prime. An apparent exception to this rule, viz.: that quartan cases may appear very late in the year, i. e,, late in December, or even in the following January, they explain on the ground of the exceedingly long incubation period of this form of fever. They claim that it has been shown experimentally to have an incubation of from forty-seven to sixty-six days. They give tables illustrating these different points.

The Bacteriology of Lobar Pneumonia Occurring in Typhoid Fever. — STUHLERN in the *Central. f. Bak.* for *March* 23, 1900, reviews this subject. He points out that A. Fraenkel, Foa and Bordoni-Uffreduzzi and others had demonstrated the presence of the typhoid bacillus in such hepatized lungs post mortem and that this led him to believe that possibly they might be obtained during life. He reports two cases of lobar pneumonia during typhoid in which by taking cultures from the sputum he was able to isolate the typhoid bacillus. The organisms obtained were subjected to the strictest tests and the patients showed the Widal reaction. The bacilli of typhoid were not found alone in any of these cases and the author thinks that organism only plays the role of a secondary invader the pneumonia being originally caused by the pneumococcus.. The sputum in these cases and the lung has seemed in some cases at autopsy to show a markedly hemorrhagic character.

LARYNGOLOGY AND RHINOLOGY

Edited by C. F. Theisen, M. D.

Syphilis of the Tonsil of the Tongue. — By JULIUS HELLER. *Berl. klin. Woch., February* 26, 1900. The writer refers to an article published by Lewin and himself in 1894, describing the smooth atrophy of the root of the tongue and its relationship to syphilis. From a large number of autopsy records they came to the conclusion that the process was intimately associated with syphilis, and was really a post syphilitic symptom. Seiffert in 1898 examined a large number of cases clinically and found that in 44.2 per cent of all cases of secondary syphilis, mucous patches, erythema and scars could be found at the base of the tongue.

The writer during the past year has observed 249 cases of syphilis. Of this number 205 manifested the signs and symptoms of secondary syphilis. Of this number twenty, or 9.7 per cent manifested secondary syphilitic lesions of the tonsil of the tongue. The writer calls special attention to the ease with which these secondary syphilitic lesions may be confused with erosions occurring at the base of the tongue due to other causes. He noticed that in some of these cases of secondary syphilitis the lesions showed a decided tendency to chronicity. In two cases they persisted as much as four months. The writer believes that there is an intimate relationship between these secondary syphilitic lesions at the base of the tongue and smooth atrophy at the base of the tongue. In autopsy records of 103 cases of atrophy of the root of the tongue—in 69 per cent of these cases definite syphilitic lesions in other parts of the body were found, which would also seem to indicate an intimate relationship between the two processes.

The writer calls attention to the necessity of careful palpation of the base of the tongue, associated with careful laryngoscopic examination in making the diagnosis. He believes that the existence of the smooth atrophy at the root of the tongue is a valuable point in the diagnosis of the of the existence of syphilis, and though it may not in every instance indicate the existence of syphilis, still in a large percentage of cases he believes that it does.

An Epidemic of Simple Streptococcic Angina.—LA DAMAY. Report in *Internat. Centralbl. für Laryngol. u. Rhinol, March*, 1900. The epidemic occurred during the winter of 1898-99 in Rennes. One hundred cases came under the author's observation, half of which were examined bacteriologically. With the exception of very few of the cases, "Grip" could be excluded as an etiological factor, as there was no "Grip" in the city at the time, and the influenza bacillus was not found in any of the cases. The cultures in all the cases, irrespective of their different clinical pictures, showed the presence of the streptococcus; in 1.4 of the cases pure cultures, and in the rest mixed with staphylococcus. From the clinical picture of these cases of angina two groups could be distinguished. The first group included all the cases in which the angina occurred as a positive and primary affection. Thirteen cases of herpetic angina, one case ot pseudo-membranous and twenty-one cases of erythematous angina, were included in this group. The very light cases of angina belonged to the second group. These were accompanied by symptoms on the part of the upper air passages, i. e., coryza once, laryngitis twice, tracheobronchitis twice, etc. One of the most prominent features of the epidemic was the frequency of facial herpes. The presence of the streptococcus in *every* case is also interesting. The author considers that this proves Lemoines' view, that all cases of acute angina are streptococcic.

Infective Granulomata of Pharynx: Glanders.—EMMA E. MUSSON, in the *Journal of the American Medical Association*, gives the history of a most interesting and unique case of infective granulomata of the throat due to the bacillus mallei. The other point of interest in the case was its microscopic and macroscopic resemblance to sarcomata of the tonsils.

The patient a woman aged fifty-four years, consulted the author for a rapid enlargement of the tonsils of twelve months duration. There were much difficulty in breathing and some pain in swallowing. Emaciation was marked, and the skin of the face wrinkled and yellowish-white in color. The pharynx was completely filled by two large tonsillar masses. A soft growth the size of a walnut, also filled the left half of the naso-pharynx. Part of the left tonsil which was excised for microscopic examination was reported to be sarcomatous. The case was also seen by Drs. Cohen and Keen of Philadelphia, who confirmed this diagnosis.

Both tonsils and the mass in the naso-pharynx were subsequently removed under ether, and again examined microscopically, with the report that this time the specimens showed round-cell infiltration but did not bear out the sarcomatous degeneration promised by the first section. A year later there was a recurrence of the growth, a soft mass occupying the left faucial region. Part of the granulation tissue removed was sent to Dr. Rabinowitsch, who inoculated six or seven guinea-pigs, and made the following report: "My experiments on guinea-pigs are by the method of Strauss and with pure cultures, inoculating a number of male guinea-pigs with bits of the suspected tissue or culture injected into the peritoneal cavity. In about thirty or forty-eight hours the testicles began to swell, the skin over them became red and shining, desquamation occurred, pus formed and the resulting abscesses (purulent orchitis) often broke through the skin. Besides inoculations into the peritoneal cavity, I also made subcutaneous inoculations. Post mortem examinations on guinea-pigs, besides purulent orchitis, showed numerous white flocculi over the surfaces of the intestines; which, when placed under the microscope, showed fields full of characteristic bacillus mallei."

The authors' resume follows: (1) microscopically and macroscopically, the tonsillar neoplasms were undistinguishable from sarcomata of the tonsils; (2) bacteriologic examination alone confirmed the diagnosis of glanders; (3) probably the neoplasm in the naso-pharynx was the primary growth; (4) the involvement of the lymphatics draining the diseased area, and later the appearance of parenchymatous changes taking place in the general lymphatic system; (5) the absence of necrobiosis of the neoplasms or invaded tissues; (6) change from a chronic invasive disease, chronic glanders, to an acute infectious disease, acute glanders, resulting in death.

Chronic Recurring Membranous Pharyngitis. — JOHN O. REYNOLDS, in the *Journal of the American Medical Association.* This is the same condition to which Mackenzie gave the name chronic diphtheria, but differs widely from ordinary diphtheria in its clinical history and miscroscopic findings.

The author reports a case in which the membrane recurred two or three times a week for fourteen weeks, when not influenced by treatment. It sometimes covered the entire pharynx and soft palate and always covered the palate. The microscopic examination which had been repeatedly made, both with and without cultures, never revealed the bacillus of diphtheria, although the patient several years ago had an attack of genuine diphtheria. The micro-organisms found in large quantities were streptococci and staphylococci, but there was no evidence to prove their causative relation. The disease is entirely distinct from pharyngomycosis and allied affections, and from the various transient forms of membranous pharyngitis.

CLINICAL MICROSCOPY

Edited by Arthur W. Elting, M. D.

The Action of Blood Serum on Vaccine. — KADJABASCHEFF in the *Annales de l'Institut Pasteur* for *February,* 1900, records the results of his observations on the effects of clear vaccine virus and what he calls the red vaccine virus, i. e., virus which contained some blood or blood serum. He states that he noticed in using the latter that it gave less satisfactory results than the clear virus. He recounts a series of experiments which tend to show that this is the case and shows that in the last year or two, during which time his institute has been using only the clear serum, a large per cent of takes has been recorded. Thus before the use of the clear serum seventy-four per cent was the highest ratio of successful vaccinations, after its use as high as eighty-three per cent of successful cases were obtained. He thinks that the blood and blood serum in the red vaccine virus counteract and minimize the effect of the virus.

Tuberculin and the Early Diagnosis of Tuberculosis.—By B. FRAENKEL. *Berl. klin. Woch., March* 19, 1900. Among the methods of making an early diagnosis of tuberculosis, tuberculin plays an important part. This tuberculin is one of the first introduced by Koch, and is a glycerin extract of pure cultures of the tubercle bacilli, the strength of which has been tested by animal experiment.

Koch called attention to the diagnostic value of tuberculin in his first publication upon the subject, and demonstrated that the injection of one milligramme of tuberculin into healthy patients was not followed by any reaction. The injection of more than one milligramme in healthy patients might cause a febrile reaction. Koch described an experiment made upon himself in which he injected into himself two and one-half milligrammes of tuberculin, and five hours after the injection he had a severe chill lasting an hour, nausea, vomiting and a temperature of 39.6 deg. C. The unpleasant symptoms lasted only for about twelve hours.

One milligramme of tuberculin injected into an individual with tuberculosis Koch found would be followed by a very marked febrile reaction. The temperature sometimes rises as high as 41 deg.C. The febrile attack usually began four or five hours after the injection, but later observations have shown that it may begin as late as thirty-six hours after the injection. Besides the fever, injection of tuberculin causes a most marked local reaction in the foci of tuberculosis, characterized by a swelling and reddening of the focus. The local reaction lasts somewhat longer than the febrile reaction. Other diseased areas such as syphilis, sarcoma, carcinoma, etc., show no local reaction after the injection of tuberculin. Thus, where there is a general local reaction we can with considerable positiveness make a diagnosis of tuberculosis. It is best to use tuberculin in patients who are free from fever. In those with fever the local reaction is practically the only important diagnostic point. The method advised by Fraenkel is to first inoculate the patient with one milligramme, and if this is followed by no reaction in three or four days to inoculate five milligrammes, and if no reaction follows this in three or four days to inoculate ten milligrammes. If no reaction follows one can be fairly positive that tuberculosis does not exist. The writer does not consider that the careful use of tuberculin in this fashion is ever followed by bad results, either in tuberculous or non-tuberculous patients. In 8.000 autopsies upon cattle in which tuberculin had been used for diagnostic purposes, the conclusions arrived at from the use of tuberculin were correct in ninety per cent of the cases. Early cases of tuberculosis seem to react somewhat more promptly than do old cases. The writer considers tuberculin of especial diagnostic value in certain cases of chlorosis and scrofula in children, and particularly surgical tuberculosis. Where one wishes to differentiate between tuberculosis, carcinoma and syphilis, and in very early tuberculosis of the lungs before there are any bacilli in the sputum, it is also of value.

Iodophilic Leucocytes in Diseases of the Blood.—By Dr. LUDWIG HOFBAUR. *Cent. f. innere Medecin, February* 10, 1900. Czerny in 1893 published the result of his investigations upon the iodophilic leucocytes, and found that in experimental animals these occur in association with anæmia. Other writers have noted in connection with leukæmia, chlorosis and other anæmic conditions the occurrence of iodophilic leucocytes, together with free granules in the blood staining in iodine, evidently characteristic of glycogen. The writer has made extended observations upon the conditions in various diseases. In chlorosis he was unable to find any iodophilic leucocytes, nor any extra cellular iodophile granules. In only two cases of secondary anæmia was he able to find iodophilic leucocytes, and these were associated with febrile conditions in which Goldberger and Weiss have shown that iodophilic leucocytes regularly occur. In severe anæmia, whether primary or secondary, more or less numerous iodophilic leucocytes are constantly found. If these cases undergo improvement the iodophilic leucocytes tend to disappear. In leukæmia the writer also observed the constant existence of the iodophilic leucocytes. In pseudoleukæmia on the other hand the iodophilic leucocytes were never found. The writer believes the occurrence of iodophilic leucocytes is an important prognostic sign in certain severe blood diseases. In general the absence of these leucocytes would appear to offer a favorable prognosis.

The Parasite of Beri-Beri.—FAJARDO in the *Centralblatt für Bakteriologie* for *February* 24, 1900, discusses this parasite, particularly with regard to its localization in the capillaries of the brain. He briefly recapitulates the results of his previous work, his main conclusions with regard to this being that there is a parasite in the blood in cases of Beri-beri, that it belongs to the order of hematozoa, and that it is found in the peripheral circulation, as well as in the internal organs. The parasite produces a pigment, sometimes gives rise to spore formation, and has a cycle of development similar to that of the malarial parasite. The author relates in detail his study of the brains of two cases of the œdematous variety of the disease in which there was no history of previous attacks of malaria. He describes and pictures both parasites containing pigment, and also masses of pigment in the capillaries of the brain, sometimes free—sometimes in the interior of the endothelial cells. He comments upon Koch's statement in his recent article on malaria that the malarial-like parasites will be found to have many varieties, and concludes that the parasite he has found in cases of Beri-beri is similar to the malarial parasite.

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ALBANY MEDICAL ANNALS

Original Communications

THE MANAGEMENT AND TREATMENT OF WHOOPING COUGH.*

BY J. W. WILTSE, M. D.,

Instructor in Materia Medica, Albany Medical College.

Mr. President, Gentlemen of the Society:

While pertussis is usually rated as fourth in point of mortality in the so-called children's diseases and while it is looked upon as a comparatively benign disease by a large portion of the laity, if we look a little more carefully into statistics and take into consideration the serious complications which sometimes accompany or follow it, we shall find that it is a disease which merits close study and proper management in order that the patient may be carried safely through the acute attack and restored to perfect health.

The chief motive for choosing this topic to present to the Society has been the inability of the laity to recognize the seriousness of the disease and the lack of proper precautions, not only on their part, but also on the part of those charged with the care and preservation of the public health. I shall speak more particularly on this part of the subject, after giving a brief resumé of some of the more serious complications, together with some statistics on the mortality of the disease. While this is not strictly within the title of this paper it may serve to emphasize the necessity for the proper regulation and treatment of these cases.

First as to the mortality. According to Keating it ranks third in the fatal diseases of children in England. The deaths in England and Wales in the period extending from 1838 to 1880 were from scarlet fever, 4,330; from measles, 2,590; from whooping cough, 2,530; or only sixty less from whooping cough than from measles. Again, the same authority gives the statistics for London from 1800 to 1853, deaths from whooping cough, twenty-nine per thousand; from measles, twenty-three per thousand, and from smallpox thirty-one per thousand; from 1854 to 1871, whooping cough, thirty-six; measles, twenty-four, and smallpox, sixteen deaths per thousand; from 1872 to 1881, whooping cough, thirty-six; measles, twenty-four, and smallpox, thirteen deaths per thousand. Thus, it will be seen that whooping cough was responsible for more deaths in London during this long period than either measles or smallpox.

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*Read before the Medical Society of the County of Albany, April 18, 1900.

In an article in the *Hospital* for March, 1898, on the advisability of isolating whooping cough, the author says: "Of the gravity of the malady there can be no doubt. With the exception of measles and diphtheria, whooping cough is the most fatal of the infectious diseases, having been responsible for no less than 6,245 deaths in the thirty-two large towns of England and Wales during the year 1896 and 4,453 deaths during the year 1897. The vital statistics of this country show a corresponding rate of mortality from the same cause." After speaking of the infectiousness of the disease the article ends with these words: "That no children's hospital and in fact no general hospital can be considered complete unless it has some means of isolating whooping cough, for who shall say at what moment that troublesome disease may not arise among its inmates? Whooping cough may be only nature's plan of clearing the world of rickety children, but nature is often cruel, while charity is kind." The State Board of Health of Michigan says of the disease: "Whooping cough is a communicable disease which is spread from person to person directly and probably indirectly and in Michigan causes more deaths than smallpox."

Of the more serious and frequent complications of whooping cough are bronchitis, capillary bronchitis, broncho-pneumonia, atelectasis and emphysema, and out of these again tuberculosis. It cannot be denied that incipient phthisis often has its starting point from a neglected whooping cough. I have in my own limited experience seen several cases of phthisis directly traceable to whooping cough as the exciting factor. Aside from measles and influenza probably there is no disease more frequently followed by tuberculosis than whooping cough, and yet, the great majority of these cases could be averted if the proper regulation and care of these patients had been instituted and carried out.

As was stated in the earlier part of this paper the chief motive for choosing this subject was the utter indifference on the part of a large portion of the community to the exposure of others when some member of their own family is suffering from the disease. While they will try to isolate a patient suffering from diphtheria, scarlet fever, or measles, the child suffering from whooping cough is allowed to roam at will and yet, it has been shown, that this disease is only a little less fatal. The whooping cough patient is conveyed from place to place on the street cars or other public conveyances; you find him in the department stores, in fact everywhere that healthy children are found. We warn the people of the infectiousness of the disease and try to show them not only the danger of exposing their own children to the changes and vicissitudes of the weather, in allowing them to go about at will, but also, the injustice of exposing healthy children to the infection. The next day you find the infected children playing on the street and mingling with other children, and the parents as unconcerned as if nothing had been said to them upon the injustice of such a course. It seems to me that we, as physicians, have been largely responsible for this condition of affairs.

We have often found drugs so inefficient in ameliorating or affecting the disease favorably, that we have come to look upon the treatment of whooping cough largely as a routine practice without hoping to influence the length of the attack or the severity of the symptoms to any great extent. The people have gradually imbibed this same feeling of the uselessness of most of the remedies tried, and come to look upon the disease as not such a serious affair after all but one that will run its course and barring accidents the child will eventually get well.

Another factor which has also produced its influence in this direction is the lack of quarantine regulations by the Health Board against it. Thus, the card furnished us to report cases of infectious diseases on, and which contains a summary of the diseases to be reported, does not mention whooping cough, although it does provide for the reporting of such a simple disease as chicken pox. Obviously a proper quarantine against the disease would impress parents and others charged with the care of children with its dangerous character and bring about isolation of the patient.

An early diagnosis of the disease is very desirable as the disease is said to be most infectious during the early or catarrhal stage. In this connection an interesting claim is made by De Amicis and Pacchioni. They claim that whooping cough is constantly attended by a lymphatic leucocytosis. In no other disease of the respiratory tract is this condition ever found so marked. If this be so it may prove a great aid in establishing an early and positive diagnosis and the prompt isolation of these patients.

To summarize the essentials of proper management:

First, the early diagnosis of the condition and prompt isolation of the patient.

Second, a rigid quarantine against the disease should be established and maintained until all danger of communicating it to others has passed.

Third, parents should be taught that whooping cough is only a little less dangerous than diphtheria, scarlet fever and measles. And, here I think, to the physician whose clientele lies largely among the middle classes will the greater difficulty arise. These people have been accustomed for so long a time to regard the disease lightly and have allowed their children afflicted, to roam at will so long that it will require the utmost patience and perseverance on the part of the practitioner to train them to look upon the disease in a proper light and guard their children against needless risks and, incidentally against the dissemination of the disease among those previously healthy.

TREATMENT.

In the beginning of the treatment of this disease the patient if treated at home should be confined to a large well-ventilated room so located as to receive as much sunlight as possible, the room being previously stripped of all unnecessary hangings and furnishings. Some authors recommend the use of two rooms, the patient occupying first one and then the other so as to allow of the proper airing and ventilating of each. However, as this would be impracticable except in the homes of the wealthy who have plenty of rooms at their disposal we shall find that in the majority of cases we shall have to be content with one, and, as there is no danger to the patient in fresh air, except in the form of draughts, we can probably regulate the ventilation in such a way that the air may be changed and yet no harm result to the patient.

In mild weather the patient should be allowed to go out into the air and sunshine, properly protected against taking cold, and accompanied by an intelligent attendant to keep him from coming in contact with and infecting other children and also to prevent him from taking too violent exercise, thus increasing the violence and number of attacks of coughing and increasing the danger of bronchial and pulmonary complications from excessive perspiration with the consequent cooling of the surface and the production of the phenomena known as "catching cold." The patient should receive daily a sponge bath, the skin being rubbed briskly in the drying process so that the capillary system responds thoroughly.

The diet should be nourishing but easily digestible. Any indiscretion in diet causing dyspeptic symptoms increases the tendency to vomit during the paroxysms of coughing.

With the more accurate knowledge of the specific organism causing the disease and of its habitat, we can narrow the drugs used in the treatment down to the three classes, germicides, antispasmodics and tonics. A remedy which has been used for a long time with a great degree of efficiency is quinine; and, as it is claimed by its strongest advocates to be most effective when used in an acidulated solution, it seems not unreasonable to ascribe its usefulness largely to its well known germicidal qualities; and this would explain why it is so much more efficient when given in solution than when given in solid form.

Bromoform and antipyrine are remedies that have been extensively used but they are denominated by some authors as symptomatic; relieving some of the more distressing symptoms but exerting no influence toward shortening the attack. Marfan uses bromoform in an emulsion and reports a series of forty cases, in all but four of which there was decided improvement. He believes that the earlier the treatment by bromoform is begun the better the results will be. Personally I have been disappointed in bromoform; it seeming to be practically useless in the cases in which I have tried it. Another objection is the unpleasant symptoms which sometimes arise, due to its poisonous character, when given in full doses.

Roskam's modification of Moncorro's method would seem to be a very rational procedure and according to his statistics has succeeded very well. It consists of the application to the glottis of a one-third per cent solution of resorcin every four hours during the day and when possible once or twice during the night. In a series of 290 cases treated in this way all recovered. The treatment was generally begun during the catarrhal stage though in some cases the convulsive stage had begun. Of the series two cases recovered in fourteen days. Seventy cases were cured before the end of twenty-five days and eighteen recovered within a month from the beginning of treatment. As a rule children under one year of age recovered most rapidly, generally within eight days. This last statement seems to be the most important part of the report as it is admitted by all writers that whooping cough is most fatal in the very young. I might add that this method differs from Moncorro's only in the fact that Moncorro applied a ten per cent solution of cocaine to the throat before using the resorcin. Roskam rejected the cocaine because he found it frequently caused spasm of the glottis. It would seem that other objections might be found to the application of so strong a solution of cocaine to the throats of these young patients.

Aside from the preceding which might, perhaps, be termed the standard remedies, biniodid of mercury in small and repeated doses, belladonna, guaiacol, tussol, and cochineal have been used. Of the latter remedy Akerblom reports eighty cases treated with a combination of cochineal and ammonium carbonate with the result that the disease entirely disappeared within from six to eight days from the time treatment was instituted.

Aside from this purely drug treatment a procedure recommended by Dr. W. B. Taylor, of McKeesport, Pa., might be mentioned. He advocates and has practiced vaccination in a series of eleven cases of whooping cough. Two of the cases passed from under observation, the other nine were relieved in at least two weeks. He claims that as soon as inoculation from the vaccine was thoroughly established the characteristic paroxysm was checked and only a slight bronchial irritation remained which soon wore away. This procedure has not been adopted by the profession and inasmuch as we frequently see mixed infections running side by side in the same patient, the one in no way ameliorating the other but only serving to make the patient's chances for recovery smaller one fails to see the rationale of the procedure.

In closing this paper I should like to say that while I am aware that I have not given you much that is new on this disease I am thoroughly impressed with its dangerous character and believe with Dr. Wm. Thorne Parker, who, after speaking of its dangerous and highly contagious character, says: "The careful physician now-a-days does not lightly regard an attack of whooping cough either in infantile or adult life."

THE HISTORY OF GONORRHOEA.*

By WILLIAM O. STILLMAN; A. M., M. D.,

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The historical study of gonorrhœa, while it has not produced a very voluminous literature, nevertheless contains some very interesting and scholastic contributions, based in certain instances on most laborious research and careful archeological exploration. The whole subject of the history of venereal diseases has been gone into in an exhaustive and thorough manner by several learned authors, mostly under the generic heading of syphilis, as for several centuries no pathological difference was recognized between this disease and gonorrhœa, or chancroid.

Haser in 1874, treated the subject elaborately in his *Geschichte der Medicin und der epidemischen Krankheiten,* and Prof. C. Baumler, of Erlangen, in *Ziemssen's Cyclopedia,* gives to it an interesting chapter, and furnishes a considerable bibliography. Among writers who have made memorable historical contributions to the study of this important subject have been J. Astruc, in 1736; P. G. Hensler, in 1783; C. H. Fuchs, in 1843; and also J. Rosenbaum, G. L. Dieterich; P. L. A. Casenave and F. A. Simon, who published works contemporaneously with Fuchs. Of course there were many earlier writers, and have been many later ones, who produced contributions of more specific importance than any of these mentioned, but their works have been mainly controversional rather than historical in character. M. Chabalier in his *These pour le Doctorat en Medécine*, Paris, 1860, has elaborated the history of gonorrhœa in great detail but with little judicial discernment. About twenty years ago Dr. J. L. Milton, senior surgeon to St. John's Hospital, London, wrote a discriminating chapter on the history of gonorrhœa in his treatise on this disease. For about a century succeeding the publication of Balfour's writings on venereal infection, in 1767, a verbal conflict of great energy and some rancour was carried on concerning the unity or duality of the venereal poisons in gonorrhœa, soft chancre and hard chancre. In this discussion the two central figures were, I think it will be conceded, John Hunter the champion of the Unicists and his opponent Phillipe Ricord, the great "dualist," who ultimately successfully disproved Hunter's conclusions.

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The earliest description of a disease closely resembling gonorrhœa, and considered by Mr. Berkely Hill to be such, is said to be found in the Chinese medical classics dating from the time of the Emperor Huangti, 2637 years B. C. In India, in medical writings credited to a sage called Susruta, who flourished about 1000 B. C., and whose utterances have been preserved in the *Yayur Veda*, one of the sacred books of the country, mention is made of ulcers of the penis as resulting from intercourse with a woman whose vagina is diseased and clearly describes condylomata as "tender, foul-smelling, fungous growths, which secrete a slimy blood, and are the result of humors caused by venereal excitement." While not specifically mentioned here there can be little doubt that gonorrhœa and the other venereal diseases have existed from time immemorial in the ancient world and generally among mankind down to the present time. The learned writer in the *Encyclopedia Britannica*, treating on the subject of specific infections, so holds in regard to syphilis. And yet when this last disease broke out in southern Europe during the latter part of the fifteenth century, it was for a long time regarded as a new disease, and its venereal significance was not understood. As Leon Bassereau, a French writer, whose work was published in 1852, says concerning this outbreak, "There was one point upon which there was not the least difference of opinion between them: upon which the oldest, the youngest, the wisest and the most ignorant were of unanimous accord, namely: that none of them had ever observed anything analogous or similar to the French disease (as the syphilitic manifestations were then called) before the arrival of Charles VIII in Italy." Soon after this, in 1551, Musa Brassavole gave authoritative utterance to the prevailing view that gonorrhœa, chancroid and syphilis (classed under the latter name), were all one disease, differing only in mode of appearance. And this view of the unity of all venereal diseases was held with little dispute up to the time of Francis Balfour in 1767, and Benjamin Bell in 1793. It was reserved, however, for the present century to clearly and conclusively prove the individuality of the poison in each of these three diseases. This was finally established in 1838 when the researches of Ricord were published.

In attempting a sketch of the history of gonorrhœa this confusion of diagnosis and terminology should be borne closely in mind. Another error equally confusing to the recognition of gonorrhœa as a venereal affection, and hopelessly clouding its true pathology to most of the earliest observers, arose from the fact that it was generally regarded as a perversion of the seminal discharge. As such little or no importance could attach to its appearance as showing a specific malady. Gonorrhœa and spermatorrhœa were regarded for many centuries as but varieties of the same disease. And yet with these last mentioned facts in mind it is exceedingly curious to note that no mention of an infectious purulent discharge from the penis is to be found in the works of Hippocrates or Celsus, or any other early Greek, Alexandrian or Roman medical author. Neither do the Greek or Roman satirists refer to the matter, and certainly no subject was so delicate as to escape their ribald jests. At no period of history was libertinism more rampant, or were erotic passions given a freer rein, than during the licentious days of Rome. Harlotry and concubinage were common enough during early Egyptian, Jewish and Babylonian days, but even their recorded medical histories fail to reveal the existence of an infection thought to be derived from the courtesan.

Possibly Dr. W. W. Sanger is right in his painstaking *History of Prostitution*, when he holds that secret diseases were common enough in Rome, but that the Roman doctors declined to treat them. It is known that the drug-sellers of that day were said to have the monolopy of treating "morbus indecens," which was the general name applied to secret, or venereal diseases. Sanger declares that "Rich men owned a slave doctor who was in the confidence of the family, and to whom such delicate secrets would naturally be confided. But the mass of the people were restrained by shame from communicating their misfortunes; as was the case among the Jews, the unhappy patient was driven to seclusion as the only remedy." Sanger does not mention where he derived the data for these statements. It is certain that urethrotomy and leaden sounds were known to the ancients and employed by them even during classic Greek and Roman history.

Be this as it may, from the time of Galen and Pliny down, an occasional reference points almost unmistakably to gonorrhœa. These two well known authors were certainly familiar with the idea that the semen may at times acquire a poisonous quality. It should be borne in mind that the history of medicine in Rome, Egypt and Greece (in fact in all Christendom), was an almost entire blank from the time of Galen to the twelfth century, with the exception of the exotic outburst of medical learning at Salerno during the two centuries ending this period. With the transfer of the scepter of medical progress to the Saracens during this dark interval, we again find among them unmistakable references to gonorrhœa. Alsaharavius, an early Arabian writer, declared that ulcers of the penis could be diagnosed when a discharge of putrified pus was found, and Avicenna (980-1037 A. D.) one of the great lights of the Arabic school, stated unequivocally that this discharge was contagious. Here we have at last a clear picture of the object of our search. Johannes Rogerius (thirteenth century), wrote concerning a disease characterized by heat, pricking pains and burning, with redness and inflammation of the penis, and also described true orchitis. Others about this time gave unmistakable evidence of a knowledge of the existence of a disease similar to what we know as gonorrhœa. M. Chabalier says, using Milton's translation of his remarks, that John of Concorreggio also described orchitis, "and John Arcalanus gonorrhœal cystitis and running, recognized by issue of blood or sanies, or both, with pricking or biting pains. Guy de Chauliac (born 1300 A. D.)

prescribes injections when heat and foul discharge (*foetiditas*) show themselves on account of connection with an infected woman; also fairly decisive evidence. John of Arden (toward close of fourteenth century), counsels injections against internal burning and excoriation of the male yard."[3]

It is to be admitted that no reference at all to anything bearing any resemblance to gonorrhœa appeared in the writings of some of the most considerable medical authorities of this early period. On the other hand several writers are held by some to refer to it, while this inference is denied by other investigators. It is quite certain that James Cataneus, in 1504 or 1505, described gonorrhœa most exactly and correctly, claiming that it might arise without the person giving it having any ulcer, and that a woman who cohabited with an infected man might, though free from the disease herself convey the infection to another male. Bethencourt and Paracelsus described it in 1527, and it is held by some careful students to have been indicated in the writings of Brassavolus (1551), Fernelius (1555), and Fallopius (about 1560). After this date it is described at intervals by medical writers, although not constantly receiving notice by all such authors. Of the unfailing continuity of the disease in society there can however be no doubt. It was still largely regarded as a morbid variation of the semen, and as such did not attract the attention which it might otherwise have received. It was apparently regarded as a secret disease, of no great moment, largely self-limited, to be treated by home remedies, or on the advice of drugsellers or a similarly affected friend.

It is interesting to note an acknowledgment of the existence of gonorrhœa from a lay source dating from this period, and also that the vulgar appellation of "pox" was in common use at an early date. In the petition of Simon Fish to King Henry VIII (published as early as 1530) gonorrhœa and syphilis were apparently differentiated in the popular mind, if not in pathology, at least as distinct variations of the same disease. Thus the quotation runs, "that catch pockes of one woman and bear them to another; that be burnt with one woman and bear it to another, that catch the leprosy of one woman and bear it to another." The term "burnt" in this connection refers manifestly to gonorrhœa, as much as "chaudepisse," its French synonym of the thirteenth century, is held by good authorities to describe the same disease.

As indicating the antiquity of the legal recognition of gonorrhœa I may state that "burning" appears in a decree as early as 1162. Shakespere uses the word "pox" twenty times in his writings but not once I think in a direct venereal sense.

Originally ulcers and morbid discharges from the urethra were regarded as local affections, or at least different from syphilis proper. Finally, however, as Baumler points out, when it was recognized that syphilis came from a venereal source, all affections of the genitals springing from sexual intercourse came gradually to be classed as one disease and called syphilis. Syphilis first appears upon the scene, or was at least first distinctly recognized historically as a separate disease, near the close of the fifteenth century, as I have previously said. Of a sudden it appeared in Italy, apparently synchronously with the entry of the French army which was besieging Naples. For this reason it was long known as the "morbus Gallicus." Large numbers of the soldiers and populace were affected and even the most secluded religieuses and exalted ecclesiastics as well as officials of high rank were not free from its manifestations. Many pathologists of that day claimed that it was due to atmospheric conditions, others that it had been brought by Columbus' sailors from the new found lands in the western seas, and others still that the stars were responsible for the plague. Vast quantities of essays were written in defense of these theories, and the footsteps of the returning sailors were traced with minute exactness. Others claimed that the disease had its origin in impure sexual congress but these were long in an unpopular minority. According to J. de Vigo, the disease first broke out in December, 1494, among the soldiery. A Spanish priest, who had lived long in Italy, and was familiar with the disease from an unfortunate personal experience, Francesco Delicado by name, made the statement that it had prevailed in Rapaller, as early as 1488, and had been conveyed to America by Columbus' men. But his voice was unheeded in the general clamor and turmoil. The campaigns of Charles VIII caused the disease to be rapidly dispersed throughout Italy, Spain, France and Germany. Statistics are in existence showing the vast numbers afflicted with the infection. It was almost like the Grippe in Europe and America a few years ago. The pest became so great that municipal proclamations were issued and formal decrees were passed against it. At last it began gradually to abate in prevalence and rigor. Cooler heads reasoned out its correct etiology, and, as I have previously stated, in 1551 Musa Brassavola compared the new disease with other venereal affections, and united them all together under the one title of syphilis.

For over two hundred years this classification held. But toward the end of the eighteenth century Balfour and Bell took decided grounds of opposition to the accepted teachings and insisted that gonorrhœa and syphilis were separate and distinct maladies. This view would, doubtless, have soon prevaled and have received general acceptance, had it not been for one of those sad accidents which sometimes pervert the judgment of geniuses. John Hunter was then in the height of his justly great fame and popularity. His reputation and prestige were enormous. In May 1767 he inoculated himself, it is said, with pus, which he considered purely gonorrhœal matter, on the surface of the prepuce and glans penis. Ulcers followed and later the usual throat and skin symptoms of syphilis. This to Hunter seemed conclusive proof of the identity of gonorrhœal, chancrous and syphilitic virus, and in 1787 he announced his adhesion to the theory of the unity of these diseases and stated his proofs. The weight of his authority was so great that for years it overwhelmed all opposition. Bell made similar experiments with contrary results. The matter was not settled definitely and finally until in 1831 Philippe Ricord made many hundred inoculations of gonorrhœal secretion on the skin and did not succeed in producing a hard chancre or constitutional syphilis. Through Ricord, as Baumler says, "Gonorrhœa was finally once more eliminated from the definition of syphilis, and the latter term was limited to ulceration and certain other disease processes upon the genitals, and to those symptoms called, since Hunter's time, 'constitutional.'" Since this period its separate identity has scarcely been seriously questioned, although up to even twenty-five years ago there were adherents to the Hunterian theory of the unity of the virus of venereal diseases still living. This generation has now passed away. With the establishment of the individuality of gonorrhœa as a distinct disease during the present century we may drop the thread of the narrative of its historical recognition.

In concluding this paper a sketch of the various pathological views which have been held in regard to gonorrhœa is most certainly in order. The name gonorrhœa has become in our day a distinct misnomer. It comes from two Greek roots meaning "semen" and "to flow," and thus in its own verbal lineage preserves the first theory concerning its cause. As I have previously said gonorrhœa and spermatorrhœa were for long centuries mixed up in hopeless confusion in the early medical mind. At last a poisonous and even infectious quality was recognized, and soon it was discovered that the gonorrhœal discharge was pus-like in character and appearance. Then ensued other long ages in which it was held that gonorrhœa might be caused by a great variety of agencies, the French *Nouveau Dictionnaire de Medicine*, so late as 1866, describing as many, I believe, as thirty-seven different causes. Among these causes were cited leucorrhœa, menstruation, malignant diseases of the genitals, uterine catarrh and ulceration of the cervix, the presence of calculus, suppression of cutaneous eruptions, sexual over-indulgence, the use of beer or asparagus, violent exercise, injuries, etc.

The gonorrhœal producing power of leucorrhœa was long a cause of obstinate debate. Even the great Ricord, and many of his distinguished contemporaries whom I might name, taught that a woman who was in a state of perfect health as far as her genitals were concerned might convey gonorrhœa by connection. One of the curious vagaries of this question, a belief prevalent for centuries, held that gonorrhœa was a critical flow, not to be too much meddled with, and beneficial in its nature. This extraordinary theory was openly professed not more than thirty years since by two conspicuous London practitioners, connected with a large general hospital in that city.

The tide of belief began to turn in favor of a specific contagium in this disease about the middle of this century. Auspitz in *Die Lehre vom syphilitischen Contagium*, in 1866, declared that the balance of evidence is in favor of there being a specific virulence in gonorrhœa. This belief was shared in by Milton, Durkee, Signund, Bonniere, Gosselin, Cullerier and others. At last it was declared that gonorrhœa only produced gonorrhœa.

The final and crowning evidence which has permanently placed gonorrhœa, or more properly speaking infectious urethritis, in the catalogue of separate and distinct diseases, was the discovery by Neisser in 1879 of the gonococcus, or specific germ of this disease. The certainty of this discovery was established by

Neisser by his production of gonorrhœa by inoculation with pure cultures several generations old. The acceptance of even this truth has been slow and its full recognition belongs to very recent medical history. According to Dr. Tyler Smith, in his *Pathology and Treatment of Leucorrhœa*, published in 1854, the microscope showed the products of gonorrhœa in the female, and of leucorrhœa springing up spontaneously, but capable of giving urethritis to the male to be almost identical. Troussart's *Microbes, Ferments and Moulds,* published in 1886, says that "in the pus-corpuscles of gonorrhœa, very minute and mobile micrococci may be observed, often associated in pairs, in fours, or in a small mass, but rarely in chaplets." He also notes the presence of this same micrococcus, or its double, in the purulent ophthalmia of new-born infants.

Conclusive evidence of the invariable microbic origin of gonorrhœa was fast accumulating, and yet so late as 1893, in Keen's *American Text Book of Surgery,* we find it stated that while the gonococcus is found in the discharge of those suffering from purulent urethritis yet its causative relation has not as yet been fully accepted. In 1895, Hyde and Montgomery's *Manual of Syphilis and Venereal Diseases,* restricts the use of the term gonorrhœa to those forms of acute, infectious urethritis, which contain gonococci, and Charles E. Simon, in his *Manual of Clinical Diagnosis,* in 1897, probably correctly reflects contemporary opinion when he declares that the gonococcus of Neisser "may now be considered as pathognomic of gonorrhœal infection."

At last, at the very threshold of the present, the correct pathology of this well known but histologically elusive infection has been established. Dr. Christfried Jakob, of Erlangen, in his *Atlas of Clinical Diagnosis,* 1899, completes the chain of pathological evidence, by recording that gonococci are found not only in "acute but also in chronic gonorrhœa, in cases of ophthalmia of the new-born, of specific cystitis, and, rarely, in cases of gonorrhœal endocarditis, gonorrhœal gonitis, etc."

In this brief summary I will not attempt to go into the subject of the variations in treatment which have characterized this disease during its long history, or of its numerous manifestations locally (as of stricture), or in various parts of the body. It is also scarcely necessary here to attempt to mention the distinguished names of those who in our day have advanced the bacteriology of the disease so successfully, and have traced the presence of its causative micro-organism not only in the mucous discharges of the mouth, and nose, and rectum, but also in the joints affected with gonorrhœal rheumatism, in peri-urethral folliculitis and abscesses and in suppurating vulvo-vaginal glands. The question of errors in diagnosis from the presence of other diplococci, present at times in the urethra, and claimed to be a source of fallacy in diagnosis in about five per cent of all cases, will be discussed by other speakers during this course. Improved staining will probably remove this source of error.

I have not attempted to cover this subject exhaustively, or even to do justice to many of its most conspicuous features, but merely to sketch in a bare outline the most interesting and salient points of its erratic and not clearly recorded history. No special attempt has been made to recall the valuable services of American specialists in establishing correct views concerning this disease, or, in fact, to cite the various theories which have been held by distinguished students of venereal infection in the leading nations of the modern medical world during the last two generations. To have done so would have consumed much time, and resulted in a lack of lucidity from the endless maze of conflicting theory and varying interpretation of facts and phenomena observed. I feel that I have trespassed sufficiently on your time already.

TYPHOID FEVER IN PRIVATE PRACTICE*

By WILLIAM J. WANSBORO, M. D.,

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The prevalence of typhoid fever in Albany is a matter which has earnestly engaged the thought and attention of the members of this society for a long time. The purpose of this paper is not the consideration of propyhlaxis but rather the presentation of the experiences of one who realizes that there is much to learn when we have a mortality; and also the desire to arrive at a satisfactory method of rational management when such diversity exists.

Every pathological process is accompanied by that most frequent symptom, fever. In health there is variability of temperature, the influences regulating the change being familiar. In disease the heat production is controlled by two factors participating in the artificial regulation of calorification; they are oxidation and nutrition, both being mutually interdependent. The identical chemical reactions occur, the same products are generated but the progressive steps are physiologically obscure. The solution of this phenomenon with its inverse or reverse application would enable us to sustain life for eternity.

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*Read before the Medical Society of the County of Albany, March 14, 1900.

During the past three years fifty-seven cases of typhoid fever have come under my observation. Three patients died, two from hæmorrhage, and the third from an unassignable cause. The two fatal hæmorrhage cases were ambulatory to the degree that during the remission it was impossible to keep them in bed.

Typhoid fever is a specific disease. Specificity is the etiologic analysis of abnormal vital conditions to their genetic elements. Each specific or elementary disease represents the cycle of change peculiar to one microbe. Like the chemical elements they exist in typical and atypical modifications and in combinations. Thus we learn that the bacillus of Eberth may produce a primary broncho-pneumonia, a pleurisy, or a bone-ulcer. With this point demonstrated and accepted, the old theory that a specific infection terminates in but one disease is exploded. Its erroneousness is apparent, the resultant conditions being from a clinical standpoint widely dissimilar. In addition, it tends to create a feeling that instead of the bacterial origin of disease universally believed there is some other force primarily the cause which allows of a secondary development of germs of a species predominating at or having greater access to the seat of the local derangement. It is conceded that water and drainage are the two principal factors prominent in the production of this fever. Flies participate largely as communicable agents. Incessant exposure insures a complacency regarding its development difficult to overcome. While all the premonitory symptoms point in the one direction the foreboding of the physician is to the patient beyond realization. The importance of ordering every suspected case to bed is often lightly considered and underestimated. Two office patients positively proclaimed that they had the grippe. The absolute correctness of their diagnosis was questioned. Typhoid unmistakably developed. Later I learned that they had previously consulted other physicians. The necessity is again evident when we remember that in the heated season the fever is comparatively mild, due in some measure to the physical inactivity accompanying even a slight indisposition. A physician is sought earlier than in the more bracing months, rest is enjoined and as a consequence we have a quicker recovery with fever or no complications. Directions must be absolutely carried out. In private practice perhaps nothing alters the prognosis more than the injudicious interference or criminality of the attendant in assuming the prerogatives of the physician. We have all been informed at the successful termination of at least one case that the diet had been more liberal than allowed. This deception is of such frequent occurrence among the unintelligent that scepticism as to the cause is created when an undesired change sets in.

Hygiene is of the greatest importance. The room should be large with at least one window opening thereon. All feathers should be stripped from the bed. Otherwise the bed and room offer excellent preliminary adjuncts to excessive diarrhœa. In summer intestinal disorders are common, due in some measure to stagnation of air and the oppressive heat of the living apartments. The bed should preferably be full size so that the mattress may be shaken without necessitating any removal. Attention to and the prevention of sagging minimize the danger of bedsore formations. The bed coverings will depend on the season, the susceptibility to cold and the hereditary proclivities. Such as prevent chilliness suffice. Flannel underwear should be discarded. The room temperature should be lower during the fever proper, and higher during convalescence, a mean of 67 degrees F. being agreeable.

Our main reliance for treatment is on water. Internally from three quarts to three gallons are taken in twenty-four hours, the quantity varying with different individuals, the tongue guiding especially during apathy. When good spring or filtered water is not obtainable the only alternative is the suspected article. This is best when boiled. However, if by boiling it becomes unpalatable or malodorous, the raw material will, or must answer. A liberal imbibition counteracts depression as universally an accompaniment. It is a stimulant to every organ of a value and potency appreciated but seldom acknowledged.

Hyperpyrexia was treated by sponge baths every three hours.

The water was as cool as consistent with comfort, the object being to refresh the patient rather than to reduce the temperature. Friction with the towel was not so complete or thorough as to remove all dermal moisture. The baths were omitted during menstruation and in winter when the house thermometer registered below 60 degrees F. as it often does among the poor. When omitted altogether, the fever was presumably prolonged. The plunge bath is impracticable in private practice. It was never used and a comparison must obviously be theoretical.

A moist atmosphere conduces to quietude and improvement. During and following rain falls it was observed that the skin felt moist where it had been dry and hot, the temperature was lowered, the pulse slower and the mind brighter. This same improvement is also believed to have occurred in three cases in which this atmospheric condition was produced artificially by watering the street with a hose. It can only be of service in summer. A natural moisture of the skin is a most welcome sign in every disease in which the sweat is not an immediate precusor of death.

Restriction of diet should be the rule. Milk can be used in every case at some period but exclusiveness should not be attempted. The meat broths are beneficial in constipation, particularly if there be antipathy to milk. In many cases they, especially mutton broth, increase diarrhœa and tympanites. When these latter conditions are in evidence the ingestion of even one pint of milk daily often suffices. Lime water added is valuable. Ice cream, clam and oyster broths, confining entirely to the liquid portion, were always allowed, no perceptible harm following. The food should be taken every two or three hours, the amount being discretionary with the patient. Nourishment seldom needs to be forced. Death is more frequent from overfeeding than from inanition.

The question of the propriety of foods known to be good media for growth in the laboratory is one whose solution depends most on the physician possessing perspicacity. A theory is not a proof. Empirical treatment is the basis on which the demonstration of most theories is founded. One physician prohibits milk, another beef bouillon, arguing that, as bacterial proliferation is favored artificially, the same result must follow in nature's course. Assuming this hypothesis we naturally expect the fever to become more malignant. Experience clashes with this assumption. A fallacy prevails. Either the germs become no more numerous or the assimilation of these nearly perfect foods by enhancing the resistance, the energy, and the vitality of the individual more than neutralizes the disadvantages accruing.

Germane to this theory is the one relating to antiseptics. Bacteriologists affirm that antiseptic solutions applied to the predominantly local seat of a systemic disease, exert no influence on its course or severity. As an instance we take diphtheria; it can be proved on the best authority that sprays and gargles fail to diminish the number of bacteria on the faucial patch. Such claims are illogical rather than paradoxical. The blandest agent is contaminated by contact with such a surface. In subtraction the remainder never equals the numerator. In typhoid we are dealing with a problem well understood. Bacilli are most numerous in the small intestine. Antiseptics are introduced. The germs are either killed or their growth is retarded. But the duration of the fever is not lessened nor is the mortality lowered. The conclusion is inevitable that the action of the medicine is wholly local; and that many of the bacteria whose habitat is in other organs escape. Assuming that systemic action is attained and the germicidal properties acknowledged the inference is at least plausible that the toxicity of the agent by destroying or lessening vitality more than counterbalances its otherwise favorable effect. This conclusion, theoretical though it be, in conjunction with that formed in so limited an experience has confirmed a belief in the efficacy of expectancy when reason does not decidedly dictate that the benefit to be derived is not greater than the injury or harm to follow.

As the medicinal treatment is symptomatic there must be times when the mildness of the fever impels absolute passiveness. There are no indications and any drug introduced is detrimental. Thirty-seven of my patients, beyond a *placebo*, received nothing more than an occasional dose of castor oil or calomel. Constipation often proves troublesome, but withal it was a most happy symptom. An initial dose of calomel, three to five grains, was given to most patients. Improvement in temperature and pulse was observed to follow, but it was ephemeral. When not used, nothing noted indicated any omission.

The onset of the fever is generally marked with a subjective history of constipation or diarrhœa. Constipation, while obstinate, yet augars favorably. It occurred thirty-two times in this series. Calomel for this continuing condition should be erased from our list of available drugs. Even the order to follow the initial dose with a saline is often disregarded. Salivation is weakening as well as being an annoyance. Thirteen grains administered in divided doses in the course of ten days salivated a girl of fourteen. Ulcers formed on the tongue and gum. This case extended over a period estimated at eighteen days. As observed by Bouchard *(Auto-Intoxication in Disease)* salivation and ulceration secondary to calomel mean a speedy recovery or an unfavorable termination. This case referred to was mild from the beginning and is not considered as substantiating the theory. Castor oil if compatible is ideal. It acts easily, surely, and with the least disturbance of the systemic equilibrium; untoward complications are not apt to arise. It was used altogether in four cases, in all of which the duration was shortened from one to five days. Unfortunately it is not well borne by the stomach. Its virtues may rest altogether in its action as a lubricant, but it probably possesses primary healing properties. Similarly olive oil should also answer, as its action is mostly mechanical. It was never used however. We reason by analogy that the good results from its use reported some years ago either bore an intimate relationship to a prevaling mild fever; or to its excellency as a mechanical evacuant, which latter opinion is personally favored. Little or no perspicuity is required as to time of administration. It seems to meet every indication and probably possesses some additional value as a food. Next in order of merit for the relief of retained excrement comes the glycerine suppository. The mode of insertion is simple, and the results are immediate. Impossibility to inflict injury is its chief characteristic. Its efficacy often fails after the subsidence of the fever or during convalescence when the soap and water enema proves reliable. The latter is not entirely free from danger in the absence of a trained nurse, almost an unknown quantity in the beginning of practice. However if the attendant be of average intelligence and the instructions are obeyed there need be no hesitation in giving the order. With a repugnance to castor oil and even aversion on the patient's or nurse's part to rectal interference, salines have the preference. They deplete the blood serum by osmosis, but the depletion is imperceptible when accuracy in the regulation of the dose is determined. The secondary anæmia is aggravated more by the salts than by castor oil, but gastric compatibility must not be lost sight of. A paroxysm of reversed gastro-œsophageal peristalsis is a marked depressant, and gloom rather than cheerfulness pervades the sick room. A great objection to oral medication, as with salines, the "A. S. & B." pills, *et cetera*, is the griping which entails a consequent loss of rest. Such a patient so treated invariably had a quickened pulse as one result. Our aim should be to preserve the mutual harmony so essential to a successful termination.

Although we most frequently have accompanying constipation during the period of incubation toward the end of the first week of the fever, diarrhœa is usually announced. Heart weakness, delirium and diarrhœa are correlated and were concurrent sixteen times, in all of which water was taken in sufficient quantities. The correction of the diarrhœa does not depend on the number of movements but rather on the constitutional effect produced. As many as twelve evacuations daily may require no more than dietetic treatment. The meat broths increase the intestinal irritation, while milk in small quantities at frequent intervals and never forced, antagonizes this condition. When milk could not be taken, on account of some pecularity or idiosyncrasy, clam and oyster stews were permitted. The former, being particularly serviceable, as well as tasty, was rendered more advantageous by seasoning with pepper. The diarrhœa is believed to have been unwittingly aggravated, fortunately without disaster, in the treatment of the coincident heart weakness. Strychnine was found to have palpably promoted peristalsis when the tendency was toward diarrhœa. This observation was made in eight cases and of course there is no way in which we can positively determine that the intestinal hypersecretion was directly attributable to the agent employed. Used during constipation, one-eighth of a grain *per diem*, it is without power as a cathartic. It is an adjuvant and perhaps it is well to remember that it only strengthens or increases the intestinal motion when once begun.

Delirium in itself is not a dangerous symptom. It seldom develops when great quantities of water are taken. It may be active or of the low muttering variety and lasted a few hours to six weeks. The conclusion was arrived at that scarcity of water in the tissues was the factor controlling its origin and severity. This conclusion is based on the following observations: first, that its development was generally noted when but little water was taken; second, on taking an amount ordinarily regarded as sufficient its severity varied in proportion to the loss by hydrocatharsis; and third, on the known affinity of alcohol for water, and its power to absorb the latter, thus possibly explaining its origin in health.

Meteorism was troublesome but once, dyspnœa developing. The patient was constipated and changes are believed to have occurred in the milk, which was exposed to the summer heat, and not preserved by ice. Perforation never complicated.

That the tuberculous diathesis predisposes to intestinal hæmorrhage in typhoid fever has seemingly been so in my hospital experience as interne, and also in private practice. This tendency is also believed to exist in allied epistaxis. The worst case of each was decisively inclined by heredity toward consumption. Eight ounces of blood was positively lost in less than two hours, from the nose of a girl of eighteen. The family history absolutely affirmed the inheritance of the diathesis. These exsanguinary complications may have been coincident in this limited series, but they left an impression. The treatment of the intestinal variety is exemplified by the following record: The patient, a frail woman of twenty-eight, passed one quart of clotted blood on the fourteenth day. The temperature never rose higher than 97 degrees F. on this or the succeeding day. There were diarrhœa of mild severity and mild delirium. A hypodermatic injection of morphine, one eighth of a grain, was immediately given; an ice pack placed over the right iliac region; hot water bags to feet; sheets removed and woollen blankets placed next to the skin; the tincture of iron, twenty minims, given every hour for three hours, and then every two hours until the hæmorrhage ceased. On the fifteenth day the patient lost four ounces more. A camphor and opium pill was administered, the iron being continued until the nineteenth day when bismuth subnitrate, twenty grains, was substituted for the iron, to better control the diarrhœa, which was increasing. The bismuth was a failure. On the twenty-third day eight ounces of blood passed the anus. The iron was twice rejected by the stomach. Sun cholera chocolate coated tablets were then used with excellent results. The bleeding ceased, the bowels were held in check at will for six weeks, delirium meanwhile continuing and the patient ultimately recovering.

While we recognize and appreciate the refrigerant action of the ice bag it may be that in addition it has a mechanical value. Its weight compresses the intestinal canal, and there is a corresponding or proportionate diminution in the lumen of the bleeding vessel. Again, the pressure being in the right iliac region over the ascending colon, the gas accumulating principally in the large intestine is forced towards the anus—an advantage of significance. This is apparently the correct solution of this problem in mechanics, but whether the advantages have any foundation in fact permit of differences in opinion.

Perhaps that which impresses itself deepest on the minds of most men is the danger from heart failure. To successfully cope with this most alarming symptom, assumes an accurate and practical knowledge of the action of the cardiac stimulants together with a recognition of the changes characterizing the pulse in the different stages. We must as well be familiar with the temperament of the individual, as to this factor can often be attributed cardiac variations which seemingly indicate interference. A regular pulse of ninety or below seldom or never requires correction. Often the rate may be as high as 118 or 120, the same being directly due to nervous excitement. Again we may notice a gradual failure of the heart's action which sometimes indicates reinforcement even before the pulse numbers 110. Our guide, aside from acceleration, lies in the tension. The extremes with recovery have been forty-four and one hundred and forty beats per minute, the former not being entirely dependent on the phlegmatic disposition. The arterial tension in conjunction with the rate enables us to approximately determine the volume of the blood and often serves to confirm a conclusion that there is a hæmic diminution. This diminution may be the result of a direct loss by hæmorrhage or it may be due to a greater proportionate destruction of the blood itself. When it follows the former, rectification must be rapid in order to abort the cardinal strain, and ward off the impending collapse. We must have recourse to transfusion or the normal saline infusion. The latter was tried in the second fatal hæmorrhage case, six ounces of the saline solution being subcutaneously injected under each clavicle as a forlorn hope. The patient died before its absorption. The power of nature to recover itself even after a severe loss, synchronous with lowered vitality, is great. The indication for active interference necessarily depends on the extent of the hæmorrhage and on good judgment relative to nature's powers to recuperate.

Stimulants are often given indiscriminately. Heart failure rarely terminates disastrously and fortunately in this series, never, except when secondary in intestinal hæmorrhage. Whiskey, its reputed value to the contrary, is overrated. It is apparently contraindicated in delirium which latter it may produce in health. It accelerates the pulse and acts as an irritant to the stomach. To those habituated it is beneficial, not on account of any intrinsic merits, but rather for the reason that this time is not auspicious to change the very nature of the man. Its best effects are obtained when given in the form of the milk punch, administered to those patients suffering from general weakness arising from imperfect nutrition. It possesses a food value and herein lies its qualifications. Employed purposely to influence the circulation it is useless, as it increases the pulse without accentuating the valvular sounds.

Strychnine also seems to possess a fictitious value as a cardiac stimulant in typhoid fever. It was tried and appeared to be a general stimulant to all muscular tissue without any particular predilection. In doses of one-sixtieth of a grain every three hours no perceptible advantage was gained. Given when the pulse was as high as 110, and then discontinued, the withdrawal seemed absolutely void of change. If given to its full physiological effect the general muscular uneasiness offset its localized cardiac action. It increases diarrhœa while constipation was never relieved by it alone. To reiterate without offering statistics, which seldom do more than confuse, it augments peristalsis, but never primarily induces intestinal motion; and its local action whether on the heart or other organs is proportionate to its action as a general muscular tonic.

The drug by far the best was found to be digitalis. The slow pulse never required treatment. The quick weak pulse of 116 to 120 is frequently encountered, and often gives rise to great apprehension. It is just here that digitalis fulfills every requisite. By it we have almost absolute control over the rate. The volume of the arterial wave is increased. The heart sounds are accentuated. The endeavor not to exceed the physiological effect is sometimes perplexing. The rule was to keep the pulse approximately at ninety, as this number was observed to be consistent with safety and regularity. The choice of the preparation may be immaterial, but in this as in other diseases the fluid extract was most frequently coupled with intermittency and irregularity. Ten minims of the tincture every three or four hours was usually prescribed. Sometimes we fail to obtain the physiologic action as soon as expected because we confound one minim and one drop. They are not equal, one minim being equivalent to five drops as formed by the ordinary pipette. Digitalis is contraindicated in cardiac irregularity as it may produce this annoyance and consequently makes the cause difficult of differentiation. The advent of the "digitalis pulse" precludes further continuance. It is in this latter condition that the diffusible stimulants and strychnine are theoretically of service, and have always been used. The belief in their excellency is readily controvertible.

Complications were not numerous. The third and final fatal case was obscure. The patient, a girl of nineteen became delirious on the fourth day of attendance. The temperature was as high as 103.5 degrees; and the pulse was 120 before the administration of digitalis, which was begun on the fourth day and continued until the thirteenth day, there being a gradual diminution in the dose. The case was remarkable for the small amount of water taken. There had been mild diarrhœa throughout. On the fifth day the jaws became rigid, the opening between the two rows of teeth not being sufficient to admit of the protrusion of the tongue. Fluids regurgitated through the nose. There was no discernible cervical swelling. It was impossible to inspect the tonsils. This condition existed until the twelfth day when deglutition became apparently normal. Rectal alimentation was used in the meantime. The temperature and pulse dropped gradually to normal on the fourteenth day of attendance, and nineteenth of fever, the pulse being seventy, full and regular at five o'clock in the afternoon. On the fifteenth day of attendance she died at two o'clock in the morning, while sitting upright to drink. Death ocurred in about thirty seconds, patient gasping and panting. There was no phlebitis. The digitalis has been stopped twenty-four hours and but twenty minims of the tincture were given daily on the eleventh and twelfth days.The urine had not been examined,but later I learned that there was no nephritis, the patient having attended at one of the local dispensaries. The locked jaw, the regurgitation of fluids and the suddenness of dissolution were and are mysterious.

Gonnorrhœa prevailed throughout the course of one case. The young man had been under treatment previous to the development of the fever when all medication ceased. Whiskey had been prohibited, but on earnest solicitation one-half ounce, night and morning, given in a milk punch, was permitted. The urethral irritation prone to subside, was so aggravated that the stimulant was stopped in two days, but not before the harm had been done. Delirium and excessive diarrhœa supervened. The specific discharge continued throughout the fever but luckily there was no eye infection.

A singular record was that of a young man of twenty-two. His was a typical case, the diazo-reaction confirming the diagnosis. On the eighth day subsequent to first call he passed a lumbricoid worm six inches long. The source of the drinking water was a well, unprotected, unsanitary, and undoubtedly polluted. The surroundings were positively anti-hygienic.

Malaria was considered as a possibility in a young woman of twenty. In the second week she was seized with chills of five minutes' duration on two consecutive nights at the same hour. In consultation it was deemed advisable to withhold quinine in anticipation of a recurrence, which however failed to materialize. The coal-tar products as observed by Osler (*Studies in Typhoid*, p. 448, extracted from Vols. *iv* and *v*, *Johns Hopkins Hospital Reports)* produce chills and make a diagnosis between typhoid and malaria obscure on account of that fact. While it is not agreed that as antipyretics they are dangerous, yet in small amounts, four migraine tablets in twenty-four hours for not more than two days, they were occasionally given for the initial headache and for menstrual colic coming on during the first week. Their effect was never deleterious.

A drug most valuable but seldom employed is opium. With it we can absolutely control diarrhœa. It produces cerebral congestion; and in accompanying delirium the tendency is toward aggravation of this latter. With coexisting hæmorrhage it insures rest, an essential element in the cure of inflammation, and here recognized as the primary cause of the bleeding. Theoretically, an astringent metal, as iron with opium, alternately, meets every indication whether hæmorrhage exists with constipation or diarrhœa. The fæcal retention for forty-eight hours, as dissimilar to the eliminative treatment, is not more harmful than the latter is beneficial. The alkaloid morphine acted best in insomnia accompanied by restlessness.

From this limited experience the conclusion drawn as to the best management of typhoid fever in private practice are as follows :

(1) A room capable of free ventilation.

(2) Removal of feather ticks from the bed.

(3) Muslin sheets next to the patient.

(4) Substitution of cotton for woolen underwear.

(5) Coverings on the bed as light as consistent with comfort.

(6) As much water as possible internally.

(7) Sponge baths every three hours, the object being to refresh rather than reduce temperature, assuring patient that there is no danger of "taking cold."

(8) Avoidance of ammonia, whiskey and strychnine as routine measures and a proper appreciation of their detrimental properties.

(9) Advantages of digitalis over all other stimulants.

(10) The futility and dangerousness of forcing nourishment.

(11) Benefits derived from opium and iron in hæmorrhage.

(12) That the beef broths aggravate diarrhœa and favor meteorism.

(13) The value of opium in the form of sun cholera tablets in excessive diarrhœa where bismuth, tannigen, etc., fail.

We may add that trained nurses may be a great aid, and they are a veritable blessing in those families minus an adult female. They were invaluable in three cases where want was dominant. Their services were generously given by the Guild for the Care of the Sick Poor. This covered my experience with trained nurses —from necessity rather than choice.

For the ANNALS

DRY HOT AIR AS A THERAPEUTIC AGENT, IN PRIVATE PRACTICE.

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Though much has been written of late on the therapeutic application of super-heated dry air, the cases reported have been largely drawn from the records of public and private hospitals, where a stationary or cumbersome apparatus could be used. I will here give my personal observations on the use of this agent with records of cases treated in private practice.

That hot air is one of the oldest of therapeutic agents there can be no doubt, though it is only within a comparatively recent period that the intense heat now considered essential in its use, could be practicably applied by means of a portable apparatus. This object has at last been obtained through the perfection of mechanical contrivances for its use.

The Apparatus. In selecting an apparatus for private practice, portability with the ability to obtain the desired object (*i. e.*, excessive heat without burning) must be the first consideration. For though in the warmer months "local baths" may be given in the office, this would hardly be advisable in freezing weather, for even the local bath produces profuse general perspiration and the susceptibility to cold is thus increased. Then a "general bath" in the office would be practically out of the question for obvious reasons.

In my experience "The Betz Dry Hot Air Apparatus," being simple in construction, portable and efficient, has proved very satisfactory. It consists of an asbestos lined oven of galvanized iron, in which the limb is supported on a hammock. The flame does not come in contact with the interior, and the hot air is admitted through holes at the sides in the floor of the oven. The stand on which it rests with canvas appliances for treating leg, arm, shoulder, hip or back respectively, and gasolene burner and high temperature thermometer, completes the outfit. As it is put together in sections, it can be easily taken apart and carried from place to place. Gasolene will be found to be the most satisfactory method of heating, as it is inexpensive, easily regulated and can be always at hand. This apparatus, or one after this general plan, will also be found to be of service to the general practitioner as a sterilizer, for dressings, bandages, etc. Fractional or complete sterilization by dry or moist heat (the latter by placing a basin of water on floor of the oven) may be accomplished by regulation of time and temperature, though of course without the more certain effects of steam under pressure.

Method of Application

Local Bath. The limb or part to be treated is wrapped in one or two thicknesses of Turkish toweling (depending on the susceptibility of the patient), snugly but not tightly applied. Special care must be observed in covering the bony prominences. The canvas extension is then fitted over the limb and the open end of the cylinder or oven—the limb being suspended in the hammock. The gasolene burner is started and the temperature gradually raised to the desired point, usually 350 to 375 degrees F., though it is best to begin with a much lower temperature, 250 to 275 degrees F., as the patient is usually nervous and easily frightened at the first treatment. It should be held at this temperature for from forty-five to sixty minutes. It must be remembered that the temperature within the oven is not the actual temperature under the toweling, for when the thermometer there registers 375 degrees it will register a little below 275 degrees under one thickness of the toweling. In a case of a stiff joint or adhesions of tendons, massage and passive motion are at once practiced on removal from the oven. Otherwise, the part is dried with a coarse towel, rubbed with alcohol and bandaged or covered for a time with flannel blankets.

The General Bath may be employed in one or two ways. The patient may be well wrapped in blankets, and an arm or a leg placed in the oven and raised to the temperature of the local bath, 350 to 375 degrees. Or the patient may be covered with a bath robe or blankets and a tent made of the bed clothes by half hoops placed over the body, and the open end of the cylinder introduced into this tent. The whole may then be covered with a rubber blanket.

In my experience I have found 180 to 200 degrees for one hour to be high enough for the general bath, (though it may be safely raised to 275° to 300°) the head of course, remaining out. As this produces very profuse sweating I can see no indication for a higher temperature. After removing the heat the patients should be left rolled in the blankets for an hour, during which time they often sleep. Then they should be sponged with tepid water, rubbed dry with a coarse towel, well rubbed with alcohol and allowed to dress.

The Immediate Effect. (a) First stage or stage of congestion. A sense of intense congestion or swelling of the part, is experienced; the loose toweling seems a tight bandage; the part seems intensely hot, with almost a sensation of burning; the skin is almost scarlet, tense and dry. This stage is usually accompanied by increased tension and frequency of the pulse, the pulsations of the arteries of the neck and the temples being plainly visible, face flushed, the impulse of the heart strong, even violent, with palpitation at times, especially with nervous women on beginning treatment. A throbbing headache is sometimes complained of. The bodily temperature is highest during this stage, usually raised from one to five degrees, higher with the first than with subsequent treatments, showing, I believe, a certain nervous element. Such a patient will often complain that the part is burning, but if it is well and carefully wrapped, too much reliance need not be placed on this statement, for the sensation will disappear on the beginning of the sweating stage and will not be complained of after the first two or three treatments. I have never yet burned a patient and I have carried the temperature to 450 degrees, the part being covered with a double thickness of Turkish toweling.

(b) The Second or Sweating Stage begins after about fifteen minutes. The sense of congestion is at once relieved. Sweating, either general or local, is profuse. The tension of the pulse falls nearly or quite to normal; the temperature is from one to three degrees less than in the first stage; pain is at once relieved and there is almost a local anæsthesia of the part treated; a feeling of general comfort and drowsiness is experienced, and I, myself, have several times fallen asleep during treatment. Dryness of tongue and fauces with intense thirst frequently accompanies this stage. This sweating continues to the end of the bath, and if continued too long, at too high a temperature, or too frequently repeated, may considerably weaken the patient. The patients are allowed to drink *ad libitum*, during the bath, of cool water, or lithia water if indicated.

(c) On removal, the tissues are relaxed, skin moist and soft, pain relieved, and but slight if any tenderness where before it was marked. Oedematous or serious swelling is diminished and there is a healthy flush over the whole surface.

Remote Effect of Continued Treatment. Rheumatic attacks are cut short; serous or fibrous exudates are absorbed; pain is relieved; circulation is improved; there is reduction of local inflammation, and congestion of internal organs, especially of the kidneys. There is apparently slightly increased alkalinity of the blood (Na Cl and litmus test) and sweat, the latter with first treatment often being neutral or even slightly acid, later always strongly alkaline. The acidity of the urine is diminished.

Indications, in a General Way. (a) For local bath. Fibrous ankylosis or fibrous adhesions of joints or tendons, for absorption of serous effusions in joints or tissues, as serous synovitis, *phlegmasia alba dolens*, sprains, local œdemas, gonorrhœal rheumatism, etc.; for relief of pain in sciatica, rheumatism, neuritis, etc.; to prevent or lessen inflammatory reaction after sprains, breaking of adhesions or injury to joints.

(b) For general bath. Any rheumatic affection, but especially the sub-acute and chronic articular forms; gout; chronic skin diseases; uræmia; passive congestion of the kidneys or suppression of urine from whatever cause; general œdema or moderate efiusion in serous cavities.

In the following records taken from my case book I will try to present cases representing as many separate indications as possible.

Case 1, Self. Diagnosis, chronic rheumatic arthritis of left knee joint of eight years standing. Its course had been characterized by acute exacerbations from time to time, during which relief was only afforded by fixation of the joint by means of splints or plaster of Paris casts, worn from four to six weeks. As a result of this treatment there were fibrous adhesions and inability to flex the joint beyond an angle of ninety degrees. The capsule of the joint was thickened, and uratic deposits formed about the ends of the bones. In spite of various forms of general and local treatment, acute exacerbations continued, until two years ago I decided that ankylosis in the extended position was the best I could hope for. The joint was fixed with plaster of Paris dressing changed every six weeks, for six months, at the end of which time there was complete fibrous ankylosis of the joint. At about this time I had an attack of sub-acute rheumatic synovitis of right knee with constantly increasing serous effusion. A cast was applied for six weeks, but at the end of that time there was no absorption of effusions from the joint. An attack of scarlet fever intervened, after which both knees were very tender and painful, so much so that any movement of them even to turn over in bed was very distressing. The "dry hot air bath" was then employed, one bath daily alternating right and left leg, the general bath being used about twice a week. Massage and passive motion followed at once on removal from the oven, and the faradic current was applied to the atrophied muscles. The snapping of adhesions in the left knee could often be heard across the room but was practically painless, and no inflammatory reaction followed. After six weeks treatment the pain, tenderness and effusion had disappeared from the right knee joint and the function was entirely restored. The left knee diminished one inch in circumference by absorption of exudate, and could be flexed to an angle of forty-five degrees, and the tenderness which had always been present on the inner side of the joint was gone. After this, treatment was only employed as a prophylactic of acute exacerbations and though on several occasions such attacks have begun "in the old time style," from one to six baths have never failed to relieve every symptom and cut short the attack.

Citrate of lithia, five grains, three times a day, has been the only internal treatment.

Case 2, Mrs. J. F. Age 72. Diagnosis, fibrous adhesions of extensor tendons of the hand, resulting from Colles' fracture and use of anterior and posterior splints. I saw her one month after removal of the splints and the fingers could be but slightly flexed. The adhesions were broken up and the hand at once placed in the hot air oven. No inflammatory reaction resulted. After one week's local treatment the patient was discharged as cured, having perfect flexion of wrist and fingers.

Case 3. Miss A. L. Age 45. Diagnosis, rheumatic neuritis of the ulnar nerve of the left arm. The acute attacks, which usually occurred in damp or rainy weather or after exposure to cold, were characterized by redness, swelling and tenderness along the course of the nerve whereever it became superficial. The pain was severe, radiating up the arm to the shoulder and breast of the same side. At these times the ring and little finger were slightly flexed. The patient was put upon salol and the "local hot air bath" was used daily for about six weeks. Temporary relief always followed its use, and the attacks have been less frequent and less severe of late. In this case I am now of the opinion that better results might have been obtained from use of the general bath.

Case 4. Mr. G. P. Age 72. Diagnosis, arthritis deformans of five years standing, involving both knee joints and the joints of both hands, with chronic nephritis and moderate œdema of both legs. The general bath was given, the knees being placed in the oven. The treatments were discontinued after one week, at which time he was able to walk farther with the help of his crutches and with less pain than he had for two years. The œdema entirely disappeared from the legs. This improvement of course was only temporary.

Case 5. Mr. H. B. Age 43. Diagnosis, sciatica, in which all the usual remedies had been tried without avail for six weeks. The local dry hot air bath was employed with result of immediate temporary relief of pain, and after one week's treatment all symptoms had disappeared and he was discharged as cured.

Case 6. Mrs. W. C. Age 29. Diagnosis, acute nephritis of pregnancy. I first saw her after she had been in labor forty-eight hours, and in the past twenty-four hours she had secreted about eight ounces of urine. A specimen examined contained a large amount of albumen and granular casts. There was moderate œdema of the legs and back, and a history of gastric disturbances extending over several weeks. Internal version was performed and the child at once delivered. Saline enemata, eight ounces, every hour, as long as tolerated by the rectum, were ordered, and the "general hot air bath" was employed twice daily. Sweating was profuse and during the first twenty-four hours after labor sixty-two ounces of urine were passed. The bath was employed for one week when the œdema had entirely disappeared. Three weeks later repeated examination revealed no albumen or casts in the urine.

Case 7. Mr. F. P. Age 30. Diagnosis, gonorrhœal rheumatism of the left wrist joint developing in the fifth weekof an acute gonorrhœa. As a result of pain experienced on the slightest movement of the wrist the patient had been confined to his bed, and when I first saw him in consultation four weeks later he was taking from a grain to a grain and a half of morphine daily for relief of pain, all the usual internal and local remedies having failed. The joint was exceedingly tender and painful and the wrist partially flexed owing to distention from fluid at the back of the joint. The effusion extended down the sheaths of the extensor tendons as far as the fingers. The swelling was boggy and pitted on pressure. There was a very slight urethral discharge in the morning. Return flow irrigation was advised, but as he was a married man and for reasons of secrecy this could not be employed, injections of zinc sulphate were used. The "local hot air bath" was employed daily. Methyl salicylate was applied to the joint, and the arm placed on a splint. Temporary relief from pain was afforded by first treatment, but it returned after two or three hours, so that gr. ½ of morph. was given during the night. The next day he was up and about owing to the support of the splint. Treatment was continued for one week and pain, tenderness and swelling entirely disappeared, the discharge having ceased on the fourth day. There is still slight stiffness of the joint which I believe better not be interfered with at present.

Case 8. Mrs. G. H. Age 70. Diagnosis, fibrous adhesions of the extensor tendons of the hand with a deformity produced by a fibrous exudate on the back of the hand, just below the wrist joint. This condition was the result of a fracture of the lower end of both bones of the forearm treated with anterior and posterior splints. Twice the adhesion had been broken up but had reformed, owing, I believe, to the fact that the necessity of continued active and passive motion had not been sufficiently impressed upon the mind of the patient. For over two months the arm had been practically useless and from this disuse fibrous adhesions had formed about the shoulder joint so that the hand neither by active or passive motion could be placed upon the head. Pain both in the arm and shoulder was almost constant, and increased upon the slightest motion. There was marked atrophy of the muscles of both arm and forearm. There was scarcely any flexion of the fingers with active motion and but slight flexion with passive motion. Patient did not approve of adhesions again being forcibly broken. The "local hot air bath" was used every day on the forearm, the shoulder being included in the bath twice a week and followed by massage and passive motion. At the end of the first week the tips of the fingers could be made to touch the palm of the hand, and there was no pain in shoulder or wrist. At the end of a month the fibrous exudate upon the back of the hand had been absorbed. Passive motion of the hand was perfect. Active motion, though assisted by exercise, massage and electricity, returned more slowly, owing to the long disuse and atrophy of the muscles, though now after fifty baths, the fingers can be completely flexed by active motion with the exception of the distal phalanx of the index finger, and this is improving with exercise. With the exception of stiffness in the morning or after a few hours of disuse the result is all that could be desired. The hand can be placed upon the back of the head by active and passive motion, and the patient has been able to "do up her back hair" and accomplish other feats which before had been impossible. In fact the shoulder is normal, with the exception of complete elevation of the arm in position of abduction, and this I think is due to the presence of a urate deposit upon the upper and anterior part of the rim of the glenoid cavity. Lithium hippurate was the only internal medication in this case.

In conclusion I will simply add that while I consider hot air by no means a "cure all," it is certainly a valuable adjunct to other treatment in the class of cases in which it is indicated, and chief among these indications I would again emphasize its use for the absorption of serous or fibrous exudate, or breaking up of fibrous ankylosis or adhesions, and in the treatment, prophylactic alleviative and curative (?) of sub-acute and chronic articular rheumatism.

518 SECOND AVENUE

Correspondence

MEDICAL EDUCATION IN GREAT BRITAIN.

MANCHESTER, ENGLAND, *August*, 1900.

TO THE ANNALS:

A reader of the ANNALS who thought that an explanation of our English medical qualifications and degrees would elucidate some misconceptions asked me to write a brief communication upon this subject.

A man can become qualified to practice medicine in Great Britain in one of two ways. The first way is to reside at one of the leading universities such as Oxford, Cambridge, London, Victoria, etc. The student attends the lectures at his university and the clinics at some recognized hospital. He then goes in for the final examinations of his university anp has its degree conferred upon him. If, for instance, a man fulfils the necessary conditions and passes the examinations at Victoria University he will receive the degree of bachelor of medicine and surgery which graphically would read "M.B.,Ch.B., (Vict.)." This degree fully qualifies him to practice medicine and surgery in Great Britain. In order to obtain this degree three sets of examinations must be passed, the first in biology, chemistry and physics after a year's work on these branches.

The next year or eighteen months is devoted to anatomy, physiology and materia medica and these form the subjects for the second examination. College and hospital work are carried on concurrently during the next three years. Six months are spent as surgical dresser, the first three months in the out-patient department and the next three in the wards. The students apply all the dressings and bandages and gain much practical experience. Six months are also spent on the medical wards as clinical clerk. The clinical clerk keeps the records, notes and charts and receives a great deal of bedside instruction. The subjects covered in the final examination are medicine, surgery, pathology, gynaecology, obstetrics, public health, medical jurisprudence and therapeutics. This makes a total of over five years, including three years at a hospital, before a man can receive his degree.

An "M.B." cannot sign himself "doctor"—just plain commonplace "Mr." If an "M.B." decides to devote himself to the study of medicine he sets about to get the higher degree of "M.D." This is awarded only after a really good thesis or some original work is submitted to the university. This requires usually from six to twelve months of work and study. Holders of the "M.D." degree are entitled to be addressed as "doctor" and to use that much abused title. For the men with surgical proclivities some universities award the degree "M.S." (Master of Surgery) to men previously qualified who have done some acceptable original work.

The English surgeons cling to the term "Mr.' and feel insulted if addressed as "doctor."

The second method is to pass the examinations of one of the recognized medical colleges who have the power of granting a license to practice. By far the most important of these is the Royal College of Physicians and Surgeons who give a joint diploma represented by the letters "M.R.C.S., L.R.C.P." (Member of the Royal College of Surgeons, Licentiate of the Royal College of Physicians). Another diploma is the "L.S.A." (Licentiate of the Society of Apothecaries). These are the only two in England but there are others in Scotland and Ireland. They are not degrees, only licenses, and are of distinctly lower standing than the university degrees because they used to be much easier and cheaper to obtain and did not require such a long college course. Latterly the length of study required and the difficulty of the examinations have been increased and are much the same as university requirements, though not quite. They still however do not give a man the same standing. To obtain these licenses one must attend the lectures and hospital course at one of the recognized schools of medicine as connected with most of the leading London hospitals.

In addition to these there are certain other titles which may be obtained by examination or in some cases simply by election. The Royal College of Physicians, which I have before mentioned, has a very stiff examination, which, when passed, confers the Membership of the Society—' M.R.C.P." It is open only to qualified men and therefore is not in itself a qualification. The College also confers by election the title of Fellow, "F.R.C.P.," upon distinguished physicians and this is one of the highest honors to which an English physician can aspire. Similarly the Royal College of Surgeons has a very rigid examination in surgery which is only open to qualified men. This confers Fellowship of the College upon successful candidates ("F.R.C.S."). This is about the highest surgical distinction. There are a few other diplomas which college or universities give to men previously qualified, such as "D.P.H." (Diploma of Public Health), but they are more or less subsidiary.

A surgeon might sign after his name "M.B., Ch.B. (Vict.) M.S.., F.R.C.S." These letters should now be intelligible. In this case however the surgeon would simply put "M.S., F.R.C.S.," as the fact of having the degree of "M.S." would show that he must previously have obtained the degree of "M.B., Ch.B." at the same university. For the same reason a man with "F.R.C.S." would not add the lower title of

"M.R.C.S., L.R.C.S.," since although the fellowship of the college is not a qualification to practice yet he must already be qualified in order to hold it. He would therefore simply sign himself "John Smith, F R.C.S."

I have, etc.,
W. J. S. BYTHELL.

Editorial

The Bacteriology of Tropical Dysentery

There are few subjects in medicine that have attracted more attention than dysentery. Its history dates from the earliest written records and its ravages have continued practically unaltered to the present day. That this is so is certainly not due to any want of research activity into the nature of dysentery. Indeed, the literature contains some of the most distinguished names in medicine, by whose efforts much in its clinical history, epidemiology, and pathological anatomy has been elucidated. Despite all this energy it must be confessed that the attempts to establish a common etiological factor for all cases of dysentery have thus far failed. Professor Simon Flexner, of the University of Pennsylvania, in the Middleton-Goldsmith Lecture delivered before the New York Pathological Society, April 12, 1900 (*Philadelphia Medical Journal*, September 1, 1900), has contributed some of the results of his own work in this direction, when in the Philippine Islands in the summer of 1899. Passing over the early investigations of Klebs, Prior and Ziegler, Hlava, Chantemesse and Widal and Grigariew upon the bacterial origin of dysentery to the studies of Maggiori, Laveran, Celli and Fiocca, and Escherich, who attributed the disease to the bacillus coli communis, the author then successively takes up the various organisms which have been identified by various observers with epidemics of dysentery investigated by them in various parts of the world. In Japan a fine bacillus liquefying gelatin was isolated from dysenteric cases by Ogata. The same organism was again isolated from twenty-three cases occurring in Padua by Vivaldi. The pyogenic cocci have been regarded as the chief pathogenic agents by Zancarol, Silvestri of Turin, Bertrand

and Baucher of France, and Ascher of Prussia. From the cases of endemic entero-colitis of Cochin China, Calmette obtained the bacillus pyocyaneus. The same organism was isolated from a small epidemic of the disease occurring in New York State by Lartigau, in another epidemic in children prevailing in Canada by Adami, and in certain sporadic cases by Barker in Baltimore.

Recent bacteriological investigations have thrown a flood of new light upon this obscure subject of the etiology of dysentery. Two bacteriologists, Shiga of Japan in 1897, and Flexner of this country, have succeeded in isolating a common organism from the dejecta of dysenteric patients in Japan and in the Philippine Islands. Moreover, the latter investigator isolated the same micro-organism from a case of chronic dysentery contracted in Puerto Rico. For the most part this *bacillus dysenteriae* possesses typhoid-like morphological and cultural properties, evidently then being closely related to the Eberth-Gaffky bacillus. The organism isolated by Shiga and Flexner shows less marked motility than the other when first isolated, and a tendency to lose motility rapidly in artificial cultivations; it displays a more uniform generation of indol; after a brief preliminary acid production in milk it gives rise to a gradually increasing alkalinization; it is inactive to blood-serum from typhoid cases; but reacts with serum from dysenteric cases to which the bacillus typhosus does not respond. Animal experiments made by Flexner have given variable results. With monkeys the tests were negative; mice, guinea pigs, rabbits and cats succumb to subcutaneous inoculations. Feeding the cultures to dogs produces diarrhoea and death in five or six days in positive instances. The main features of Flexner's results have in part already received confirmation in the hands of Dr. Strong, U. S. A., stationed in Manila. An interesting, fortunately not very serious accident, goes far to further establish the causative relation of the *bacillus dysenteriae* to dysenteric lesions. In studying the organism a small quantity of fluid culture was accidentally aspirated into the mouth of one of the laboratory assistants in Baltimore. The culture was expectorated and the mouth rinsed with a weak carbolic acid solution. Notwithstanding this precaution a severe diarrhoea with bloody and mucous stools, pain and tenesmus developed in forty-eight hours.

The result of protective inoculations and serum therapy are impatiently looked for by medical men. Small animals have already been successfully protected from further inoculations with virulent bacilli. Goats have likewise been immunized. Shiga has already been able to test the serum produced upon human cases. Up to November 1, 1899, he had treated with the serum in 1898 in Laboratory Hospital 65 cases, death rate 9 per cent.; in 1899 in the same hospital, 91 cases, death rate 8 per cent.; in 1899 in Hirowo Hospital, 110 cases, death rate 12 per cent. During the same period of 1899 there were under ordinary treatment at Tokyo, at Hirowo Hospital 116 cases, death rate 37.9 per cent.; at Hirowo Hospital, 53 cases, death rate 37.7 per cent.; at Komagome Hospital, 398 cases, death rate 34.7 per cent.; in private houses, 1,119 cases, death rate 28.5 per cent.

Another class of micro-organisms, the protozoa, have been regarded with particular favor as inciting agents by a large group of writers. Since the studies of Kartulis, Councilman and Lafleur, and Kruse and Pasquale upon the role of the amoebae in endemic dysentery the designation "amoebic" has been regarded by the popular medical mind as synonymous with endemic or tropical dysentery. And yet the evidence upon which this belief is based cannot be regarded as convincing. As Dr. Flexner points out, no precise role can be ascribed to this class of organisms in dysentery until we shall have gained exacter means of differentiating amoebae. Thus the observations of Grassi, Calandrucci, Massiutin, Kruse and Pasquale, Gasse and Schuberg have done much to discredit their etiological relationship to this disease. The results of Schuberg's investigations have been particularly valuable in this connection; he showed that to the reaction of the lower colon and the consistence of the feces was due the fact that the *amoebae coli* could not be constantly found with comparative ease in the dejecta of healthy individuals. If a laxative, as for example, Carlsbad salt, is administered and the contents of the upper colon are then collected and examined, amoebae are frequently demonstrable. Moreover, under these conditions flagellates—the trichomonas and cercomonas—appear in the stools. He looks upon these parasites as common commensals in man. Experimental attempts to reproduce the disease in animals with amoebae have been far from satisfactory.

Medical Education in Great Britain

The manufacture of medical men in England differs from the process employed in this country. The spinning of the neurons and the weaving of the dendrons is accomplished by means of different machinery and patterns. A letter printed elsewhere goes into some of the details. The three years spent in "walking the hospitals" are well spent and a feature worthy of imitation. In preparation for this a firm foundation is laid out of solid materials with little ornamentation to break the monotony for the student. There is a strong tendency in our country to tickle the palate of the first year students with clinics, especially surgical. It is a sign of advance to find that hospital work and clinics are being left out of the first and second years in an increasing number of colleges. It may be edifying for a beginner in medicine to see an abdominal section and to sniff etheric fumes but it certainly is not instructive. The course of study in our colleges is gradually being extended and the entrance requirements are being advanced. There is yet room for improvement. The steps in the evolution of the English medical student are longer than those required here. National characteristics may partly explain this but let us hope the finished product of both countries is the same—a well rounded physician and surgeon.

Medical Progress

As the domain of disease is being more thoroughly investigated, the dark borderlands which heretofore have baffled observers become clear and supposed complex conditions are being differentiated and separated into their true groups. This tendency shows itself by the description of a large number of signs, called unfortunately after their discoverers, which are supposed to be pathognomonic of the morbid entity and diagnostic in obscure conditions. The Widal reaction in typhoid, Koplik's spots in measles, Kernig's sign in meningitis, Litten's phenomenon and Babinski's reflex are types. Although each discoverer is likely to be carried away by his own enthusiasm and to exaggerate the importance of his own sign still any claim is immediately subjected to such severe tests by clinicians everywhere that it must have merit if it survives.

The Widal reaction described in 1896 is positive in ninety-seven per cent. of the cases at some time in the course of the disease but in two per cent. of the positive reactions it is due to some other condition.

Koplik's sign, brought to the attention of the medical profession in the same year, is said to be present in nine out of ten cases of measles.

Kernig's sign, observed since 1884, is found in eighty-four per cent. of the cases of meninigtis but is seen also in other cerebral conditions.

Litten's phenomenon and Babinski's reflex are less positive in the respective morbid conditions for which they are diagnostic. These results all indicate that although each year marks a step forward in the diagnosis of disease still an individual case must be judged by the totality of the symptoms present. The signs described by the pioneers of medicine cannot be entirely replaced by those of the last decade.

Medical News

Edited by H. Judson Lipes, M. D.

ST. PETER'S HOSPITAL STAFF.—On September 4th, the hospital staff of St. Peter's Hospital was reorganized and the following appointments made: Consulting surgeon, P. J. Keegan, M. D.; consulting physician, T. K. Perry, M. D.; attending physicians, Henry Hun, M. D., H. Van Rensselaer, M. D., A. MacFarlane, M. D.; attending surgeons, S. R. Morrow, M. D., William Hailes, M. D., J. V. Hennessy, M. D.; ophthalmic surgeons, G. S. Munson, M. D., T. F. C. Van Allen, M. D.; abdominal surgeon and gynecologist, John B. Harvie, M. D.; nose and throat, C. F. Theisen, M. D.; obstetrician, J. F. Reilly, M. D.; pathologist, George Blumer, M. D. Dispensary department—Surgical, W. J. Wansboro, M. D.; medical, T. L. Carroll, M. D.; skin and genito-urinary, J. W. Wiltse, M. D. House staff—Physician, Waldron A. Stearns, M. D.; surgeon, W. Gansevoort Mack, M. D.

Report of Albany Bureau of Vital Statistics for August.—During August there occurred 116 deaths from all causes in the city of Albany, as follows: typhoid fever, five; croup and diphtheria, two; diarrhœa, sixteen; acute respiratory diseases, four; consumption, seventeen; diseases of the digestive system, nine; urinary system, fourteen; circulatory system, thirteen; nervous system, seventeen; cancer, seven; old age, eleven; unclassified, two. With the exception of one case all those dying of diarrhœal diseases were under one year of age.

The number of births recorded for August was 100.

Department of Health Regulations for Health Physician.—In previous years the work for the district physicians of the city of Albany was exceedingly arduous, due to the fact that there were no regulations which prevented every one who might apply from receiving free medical attendance. Imposition from people who were fully able to pay regular physicians' fees were an every day occurrence, and the number of calls were sometimes enormous. At present any one needing the services of one of the health physicians must apply at the office of the Commissioner of Charities, who certifies to the Health Officer that such person is worthy of relief. The Health Officer then assigns the case to the health physician of district where patient resides with the order to attend the party named, and on the discharge of the case to return the assignment, properly filled, to the Health Officer. Blank assignments are also issued for vaccination, and for procuring anti-toxin. The health physicians, therefore, need not attend any case without an order from the Health Officer.

Union College.—The one hundred and sixth year of Union College began September 20th, 1900. With one exception the faculty remains the same as last year. Dr. Herbert L. Towne was elected to succeed Prof. J. W. H. Pollard. Dr. Towne is a graduate of Williams College, in the class of '94, and also of the New York College of Physicians and Surgeons. The campus has witnessed several changes during the summer, chief among which are the closing in of the Y. M. C. A. hall and the starting of the Kappa Alpha Chapter house, which is expected to be finished this fall. The schedule for the first week was as follows: Tuesday, September 18th, registration day for freshmen; Wednesday, registration day for other students and entrance examinations; Thursday, first chapel exercises and first recitations; Friday, freshmen recitations began, and Friday evening the Y. M. C. A. gave its annual reception to the freshmen class at President Raymond's house.

Physicians of Albany and Vicinity Swindled.—For the past two months a man claiming to be the general agent of the United States Casualty Company has been operating among the physicians of Albany, Troy, Schenectady and other places. He presented a policy for $1,000 at an annual premium of one dollar and stated that he was securing a limited number of physicians to act for the company. Such excellent inducements were offered that many physicians gladly paid the small fee. Credit is due Dr. Hinman for catching this impostor—W. D. Stafford—by name. Stafford showed Dr. Hinman the name of Dr. Blessing as one of the subscribers, and not receiving his policy as promised, Dr. Hinman inquired of Dr. Blessing whether he had been treated likewise. The police department was notified and the men quietly visited and warned the physicians of Albany. The man was captured at Dr. Mears' office and arrested on the charge of larceny. The proprietor of the hotel where he resided gave bail for $500. On the day for trial the man did not appear. The insurance company, of which Stafford claimed to be agent, sent their representative to assist in his prosecution, but as yet he has not been recaptured.

THE NEW YORK MEDICAL JOURNAL.—This estimable journal, which was established in 1864, and which has been published until recently by D. Appleton & Company of New York, has been purchased and will hereafter be published by the A. R. Elliott Publishing Company of New York. The same general appearance prevails. Dr. Frank P. Foster has been retained as editor-in-chief. The address of the *New York Medical Journal* has been changed to 66 West Broadway, New York City.

OBSERVATIONS FROM AN OUTBREAK OF DIPHTHERIA AT THE WILLARD STATE HOSPITAL.—*July Bulletin, State Board of Health of New York.*—Questions regarding the course and management of diphtheria are at this time the most interesting of any coming before sanitary investigators. Newly observed phenomena and their bearing on the control of outbreaks are of practical application and should find record for the earnest consideration of health officials. The following is a summary of observations of a very interesting outbreak at the Willard State Hospital, by Dr. W. A. Macy, medical superintendent: Early in 1897, diphtheria was brought into the institution through employees who had been in contact with a case nearby. There followed an epidemic, a moderate number of cases developing from time to time for six months, when it ceased without recurrence then or during the following year. In June, 1899, diphtheria broke out again, probably likewise imported, spread rapidly, seventy-five cases occurring, of mild type. It has continued, with intermissions of a month or two, till now, there being at present no actual diphtheria, but a number of germ cases in isolation. The condition is of a long lasting epidemic in an institution of 2,700 population, mostly adults, under resident medical supervision, with a well appointed laboratory used on so extensive a scale that every member of the community had cultures taken over and over again, all of which are recorded. It was observed (1) that the type of the disease varies in different epidemics; in the first 1898, nearly every one exposed, even slightly, took diphtheria, but the course of the disease was mild; in the present epidemic it was much less infectious and much more virulent. (2) The germs of diphtheria can maintain activity with much persistence outside the body and resist the action of ordinary disinfectants. Recurrence of the epidemic after all the people were found germ free, was found to occur in rooms which after occupation by the sick had been subjected freely to formaldehyde, sulphur fumigation, washing with bi-chloride, hot soap-suds or soda solution, both walls and wood work. Twenty-five cultures were often taken before a building was found free. (3) It was found that cases discharged from quarantine after three negative cultures communicated diphtheria, and new cultures showed Klebs-Loeffler germs present; the sick were discharged only after three negative cultures taken on alternate days. None of these thus tested were found afterwards to show the disease germs, but nothing short of this was found trustworthy. (4) Presence of the germs in healthy throats was found; they persisted there for weeks; cultures were almost or quite as pure as from membranous cases; virulence tests in the laboratory showed them to be as dangerous as those from cultures taken from clinical cases. Membranous diphtheria followed exposure to such, and even at second hand, for in one clear instance a person associating with a germ case without sore throat carried in his clothing the disease in virulent form into a family living several miles distant, bearing germs taken from that case. It would appear then that bacteriological diphtheria is as potentially dangerous as clinical. (5) Change in the shape of germs attended convalescence; when these "degenerate" forms occurred the disease generally soon yielded. There was reason to think that these attenuated forms may under conditions favorable to rapid development increase in strength, but that they have not sufficient virulence to be actually dangerous. While in membrane cases the bacilli followed a definite life history, those from a normal throat may differ daily. (6) Immunization by anti-toxin of all employees, through whom almost solely it spread, and of all exposed patients gave reason for satisfaction, and this experience commends its use for all such exposed. A lessened dose on repetition is commended; and to give it in fleshy ,part of the body not pressed on by clothing, not in the extremities. It was used with great confidence in treating the sick, and of 75 membrane cases there were no deaths.. An epidemic of diphtheria, showing these phenomena of persistence of resistence to common germicide treatment, of extensive distribution among immune adults, of prevalence on so large a scale, and occurring under conditions favorable to so elaborate management and detailed investigation rarely occurs. The use of anti-toxin was tested on a large scale, there was much study of disinfection, and the laboratory work was carried to unusual extent, 21 000 cultures having been taken during the year, all of which with a history of every case have a complete card record. Of the mass of technical study only the mention of some practical observations furnished by Dr. Macy finds room here.

YALE MEDICAL SCHOOL.—Dr. Charles J. Bartlett, who has been assistant professor of pathology for the past five years, has been elected to the professorship of that department to succeed Dr. Moses C. White, who will be continued as professor emeritus. The chair of Obstetrics and Gynecology, which was made vacant by the death of Prof. George Campbell a year ago, has been filled by the appointment of Dr. Otto G. Ramsay, of the Johns Hopkins University.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, CHICAGO.—Dr. John B. Murphy has accepted a professorship in Surgery and Clinical Surgery in the Northwestern University Medical School—Chicago Medical College. Dr. Murphy has been appointed Surgeon-in-Chief of Mercy Hospital, with the direction of the surgical teaching in that hospital. He will give two clinics each week at the hospital. The hospital now contains 260 beds with abundance of clinical material. A new amphitheatre with a seating capacity of 300 is in progress of construction. Dr. Archibald Church has also been recently appointed Professor of Nervous and Mental Diseases and head of the Neurological Department.

AMERICAN JOURNAL OF NURSING.—This new journal is the official organ of the *Associated Alumnæ of Trained Nurses of the United States* and is established as a direct means of communication with its members, presenting the proceedings of its own and auxiliary societies, and giving monthly to the profession a comprehensive digest of the nursing progress of the world. The first number of the journal will appear in October. The names of the editors and promoters are a sufficient guarantee of the high standing of the journal and that this standing will be maintained and advanced. This new journal is published by the well-known firm of J. B. Lippincott Company, of Philadelphia, with Miss S. F. Palmer, of the Rochester City Hospital, Rochester, N. Y., as editor-in-chief. The several departments and editors will be as follows: *Practical Points on Private Nursing,* Miss Isabel McIsaac, Chicago, Ill.; *Hospital and Training-School Items,* Miss Linda Richards, State Hospital, Taunton, Mass.; *Children's Department,* Miss L. Brent, Hospital for Sick Children, Toronto, Canada; *Foreign Correspondence,* Miss L. L. Dock, New York City; *Official Reports of Societies,* Miss Mary E. Thornton, Secretary Associated Alumnæ of Trained Nurses of the United States, 143 East 35th street, New York City, and Miss L. L. Dock, Secretary American Society of Superintendents of Training-Schools for Nurses, New York City; *Food,* Miss Ella Cox, House of St. John the Divine, Tompkins Cove, N. Y.; *Sanitation, Construction, Hygiene, etc.,* Miss M. E. P. Davis, Boston, Mass.; *Educational,* Mrs. Hunter Robb, president Associated Alumnæ of Trained Nurses of the United States, Cleveland, Ohio; *Subjects of Current Interest,* the whole staff; *Progressive Movements,* Miss L. L. Brown, Boston, Mass.; *Prophylactics,* Miss Mary M. Riddle, South Department, Boston City Hospital, Boston, Mass.

BRITISH MEDICAL ASSOCIATION.—At the third general meeting of the British Medical Association held August 2nd, a committee was elected to consider and report upon the best means of reorganizing their constitution. The members of this important committee were chosen on a territorial basis, and it was found convenient to arrange that there should be fifteen members for England and Wales, two for Ireland, two for Scotland, and five for the colonies and dependencies of the Empire. Mr. Edmund Owen, of Toronto, was chosen as the representative of Canada. The meeting of this Association for 1901 will be held at Cheltenham, Gloucestershire. Dr. G. B. Ferguson is the president-elect.

NEW HOME FOR J. B. LIPPINCOTT COMPANY.—An important transaction has just been concluded by which a number of old-fashioned dwelling houses on East Washington Square have passed from the ownership of the heirs of the famous lawyer, Horace Binney, and will soon be torn down to make way for a fine building to be occupied by J. B. Lippincott Company, whose old home on Filbert Street, above Seventh, was burned down some months ago. Possession is to be given by September 14, and it is expected that the demolition of the old structures will begin soon after. The site is considered a very eligible one for the Lippincott Company, as it has light on three sides, is very central, and they will be enabled to promptly issue and increase their excellent line of medical publications by standard authorities. By the way, their new catalogue, just issued, is handsomely illustrated with excellent portraits of many of America's leading writers.. Many historical recollections cluster about the properties just sold. They stand on the ground once occupied by the old Walnut Street Prison, built before the Revolution, and in which during the struggle the English confined American prisoners during the former's occupation of Philadelphia.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The Centenary celebration of the Royal College of Surgeons, July 25 and 26, was the most notable event in the history of that body, which was chartered in the reign of George III. For the first time, a number of honorary diplomas were presented to the Prince of Wales, Lord Salisbury, Lord Rosebery, and in addition to thirty-four distinguished surgeons of all nations. Honorary degrees or diplomas may be of great or little value; but in this instance, we consider that the recipients were very highly honored, as were also the countries and universities they represented. Dr. Halsted, of Johns Hopkins University; Dr. Keen, of Jefferson Medical College; Dr. Warren, of Harvard, and Dr. Wier, of Columbia University, were the recipients in the United States. In Canada, Professor T. G. Roddick, Sir William Hingston and Professor I. H. Cameron. representing respectively the Universities of McGill, Laval and Toronto, received the honors.

—DR. J. M. DA COSTA DEAD.—Dr. Jacob M. Da Costa, the distinguished physician, who was widely known on two continents, died suddenly at his home near Philadelphia, September 12th, 1900.

—SIR WILLIAM STOKES, the distinguished surgeon of Dublin, died at Durban, South Africa, August 19th, 1900. He was surgeon-in-Ordinary to the Queen, and Consulting Surgeon to the British forces in South Africa. He was born March 16th, 1839.

—DR. HUNTER MCGUIRE, the distinguished surgeon of Richmond. Va., died at his home September 19, 1900, aged 65 years.

PERSONAL.—MARRIED: MOAK—SMEDLEY. At Williamstown, Mass., on Wednesday, September 12th, 1900, Dr. Harris Moak, (A. M. C. '98) and Miss Mary Louise Smedley.

ELTING—LORD. At Mount Jackson, Pa., September 5, 1900, Dr. Arthur Wells Elting and Miss Mary Bushnell Lord.

Book Reviews

Manual of Pathology, Including Bacteriology, the Technic of Post-Mortem and Methods of Pathologic Research. By W. M. LATE COPLIN, Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia; Pathologist to Jefferson Medical College Hospital and to the Philadelphia (Blockley) Hospital; Bacteriologist to the Pennsylvania State Board of Health. Third edition, revised and enlarged. 330 illustrations and 7 Colored Plates. Octavo, 946 pages. $3.50 net. P. Blakiston's Son & Co., Philadelphia, Pa.

The appearance within a comparatively short time of a number of editions of a text book of pathology bears witness to the rapid strides made each year in this department of scientific research and to the steadily growing appreciation of the fundamental importance of the subject to medicine. The fitting popularity of Professor Coplin's Manual of Pathology has permitted a third edition since the publication of the second in 1897. Notwithstanding the many excellent qualities of the previous edition, considerable revision and addition of new matter have been made in accord with newer outlooks Thus the present book has been increased very materially above the preceding. The chapter on post-mortems has been revised and new methods have been introduced in the chapters on technic. Bacteriologic technic has been placed in a chapter by itself, and the technic of blood examinations has been transferred to the section of the blood with which it properly belongs. Special technic has been added throughout the book. New chapters have been added on the thymus body, ductless glands, muscles, bones, joints, and the nervous system.

But despite the general excellence of the book one cannot escape the impression that too much has been tried and correspondingly found wanting in the scale of criticism. For in a book of this kind the omission of sections on bacteriologic and blood technic, and urinary examinations, would perhaps have added to, rather than detracted from, the merits of the manual. The plan is otherwise satisfactory; and the addition of many new illustrations and some colored plates will no doubt further commend the book to students. AUGUST JEROME LARTIGAU.

A Laboratory Manual of Physiological Chemistry. By ELBERT W. ROCKWOOD, B. S., M. D., Professor of Chemistry and Toxicology in the University of Iowa. Illustrated with one colored plate and three plates of microscopical preparations. Published by The F. A. Davis Co., Philadelphia.

The almost universal agreement, both by teachers and students, in the superiority and importance of the laboratory method of instruction over the didactic has necessitated the preparation of manuals with which to reinforce the practical work. The book before us is just of such a type, containing a detailed account of three hundred and forty experiments in physiological chemistry. For the purpose of making the course outlined flexible, the less important experiments, or those which are not of general interest, have been rightly printed in smaller type. Here and there a few inaccuracies have been noticed, such as the confusion of the biuret and Piorkowski tests. A good account of Kjeldahl's method of nitrogen determination has been given. The general excellence of this practical guide will surely appeal to a large class of intelligent students in elementary physiological chemistry. AUGUST JEROME LARTIGAU.

International Clinics. Volume II, Tenth Series, 1900.

This volume contains thirty-four articles and a short report of the fifty-first annual meeting of the American Medical Association. The articles are about evenly divided between reports of cases and short papers by well-known men and are classified under the headings therapeutics, medicine, neurology, surgery, obstetrics and gynecology, diseases of the eye and ear, dermatology and new inventions.

In the first paper Dr. Henry W. Cattell describes the Kromskop, an instrument for reproducing colors in illustrations. Among the articles on therapeutics, Dr. Dieulafoy contributes one on "The Treatment of Erysipelas of the Face," in which he strongly recommends the use of Marmorek's serum. Dr. Ernest Barie finds the use of sodium tellurate of great value in checking the night sweats of phthisis.

Some of the cases presented are of the type especially useful for students, *i. e.*, ordinary cases, while others are of value from their rarity. a good example of the latter class is Dr. J. C. Wilson's "Atypical Case of Enteric Fever," with a carefully considered differential diagnosis. In an article on "Compressed Air Illness," Dr. Charles J. Aldrich gives a good description of a caisson with illustrations and shows the possibility of taking effective preventative measures against the disease.

Most of the papers are of interest to the general practitioner, including many of those on special subjects, as for example. Dr. Valude's "Practical Remarks on the Hygiene of the Eye" and Dr. Stricker's article on "The Early Ocular Symptoms of Tabes Dorsalis."

International Clinics is published by the J. B. Lippincott Company, is well printed, finely illustrated and carefully indexed. R. G. C.

Practical Uranalysis and Urinary Diagnosis. A Manual for the Use of Physicians, Surgeons and Students. By CHARLES W. PURDY, LL.D., M.D., Queens University, Fellow of the Royal College of Physicians and Surgeons, Kingston, Canada; Professor of Clinical Medicine at the Chicago Post-Graduate Medical School. Author of "Bright's Disease and Allied Affections of the Kidneys;" also of "Diabetes: Its Causes, Symptoms, and Treatment." *Fifth Revised and Enlarged Edition.* With numerous Illustrations, including Photo-engravings. Colored Plates, and Tables for estimating total solids from Specific Gravity, Chlorides, Phosphates, Sulphates, Albumin, Reaction of Proteids, Sugar, etc., etc., in Urine. 6 x 9 inches. Pages xvi-406. Extra Cloth, $3.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia.

Dr. Purdy's book is divided into two parts, the first upon the "Analysis of the Urine," and the second upon "Urinary Diagnosis." The changes in the present edition consists of a general elaboration of the text, especially of the subject of centrifugal annalysis, and the addition of a chapter on the use of the microscope. The author has been conscientious in this labor, and has honestly presented a revision and not a reprint with a new date. Sixty-six pages are given to the discussion of normal urine, and this is followed by three sections, comprising about one hundred and fifty pages, containing a description of the morbid constituents of the urine, including those in solution and the sediments. Among the distinctive features are the author's method for the determination of albumen and of sugar, with tables to facilitate rapid quantitative estimation, the discussion of the toxic and auto-toxic properties of the urine, and the chapter on gravel and calculus. Part II, pages 259 to 360, consists of three sections upon "Urinary Diagnosis," under the heads of "Diseases of the Urinary Organs and Urinary Disorders," and the "Urine in Other Diseases," the book closing with two appendices upon "Examination of Urine for Life Insurance" and "Reagents and Apparatus for Qualitative and Determinative Uranalysis," respectively.

This is the most pretentious book upon the urine in the English language, and the only one in which an effort has been made to dip deeply into the philosophy of its subject. The need of a complete work of its kind is shown by the rapid sale, and the publication of a new edition for each year of the five of its existence. There are, however, serious defects. These are chiefly in the line of omissions and incompleteness in the discussion of recent advances. Alkaptonuria, which was thoroughly exploited by Futcher in the *New York Medical Journal* in 1897, is not mentioned; nor is hæmatoporphyrin, as of occasional occurrence. Among the animal parasites, the trichomonas, described by Dock in 1896 in connection with hæmorrhagic cystitis, is not included. Only five pages are given to the bacteriology of the urine, a field replete with the discoveries of the last few years, although the chapter on the microscope and its management covers twenty-three. Methods of preparation, and staining of bacteria are not described at all. The possible confusion of the smegma bacillus with the bacillus of tuberculosis is not indicated, nor is the former mentioned. The chapters on the urine in general diseases are fairly open to criticism as being uneven and incomplete. As an instance may be taken the page given to the urine in diseases of the nervous system. Epilepsy, hysteria and meningitis are discussed. The increased toxicity of the urine associated with epileptic seizures may be inferred from what is written, but no definite statement to this effect is made. The term meningitis is employed in a loose way; probably an acute lepto-meningitis is intended, in which there has not been established a peculiar condition of the urine differing from that in general febrile disorders, unless it is the occasional presence of albumen and sugar, from irritation of the floor of the fourth ventricle, and to this there is no reference. Locomotor ataxia is not mentioned, although the vesical and renal crises, glycosuria, retention and incontinence, which not infrequently accompany this disease, place its urinary symptoms among its most important manifestations. Paraplegia is included in the causes of cystitis, but the urinary complications of many forms of paralysis and other nervous diseases, often of so great importance, are entirely omitted. In this connection the incompleteness of the index may be mentioned. Many words are not found in the index, and only in the most indirect way is it possible to locate some of the subjects. Ammoniacal conditions of the urine, for instance, are not given a place, although the subject is discussed under the chapter on cystitis. The words "gonorrhœa" and "gonococcus" are not in the index. With the exception of the index, which should be revised, the mechanical parts of the book are excellent: the printing is first-class, the illustrations are of high order, and no typographical errors have come to light. So much of practical value is found, and the evidence of conscientious work in the departments with which the author is most familiar, is so apparent, that the hope may be ventured that recognition of advances, in a future edition, may insure for the book a permanent place in the literature.

Current Medical Literature

MEDICINE

Edited by Samuel B. Ward, M. D.

Bradycardia. — Richard F. Chase (*Boston Medical and Surgical Journal, February* 8, 1900), reports a case of a man of seventy-five whose pulse varied from twenty-six to thirty-four beats per minute. There were a systolic murmur with accentuated pulmonic second sound, œdema and other symptoms of disturbed compensation, and from such information as could be obtained of the patient's previous condition it was decided that the retardation of the pulse existed for less than a year before death. The writer discusses Riegel's classification and the causes assigned by him, and also reviews other literature upon the subject. A physiological bradycardia has long been recognized, and it has been customary to divide the cases into either physiological or pathological. In the former have been included cases in which no other symptom of disease than the retarded pulse was observed. This leads to a misconception, for there are cases which may be called idiopathic bradycardia, and these are strictly pathological. This leads to a classification of (1) physiological bradycardia, (2) idiopathic bradycardia, (3) symptomatic bradycardia. The object of the writer has been to direct attention to the following points:

(1) A pulse rate under sixty, which is synchronous with the heart's systole, constitutes a bradycardia, according to Grob.

(2) The condition, all classes considered, is of common occurrence.

(3) It is much more common in men than in women.

(4) There are three types of bradycardia, as classified according to the clinical aspects.

(5) The class here termed idiopathic bradycardia, on account of its usual fatal termination, must not in any case be passed by as a mere curiosity.

Fatal Hemorrhage in the Course of Chronic Gastritis. — By M. Phen, *Archives generale de médecine, December* 18, 1899. In 1898 Dieulafoy called attention to a special variety of erosion of the gastric mucosa, to which he gave the name of simple ulceration, and in 1899 he reported nine cases illustrating this condition. The symptomatology is fairly characteristic. It usually attacks young individuals from twenty to forty years of age who have had no antecedent gastric trouble, and is characterized by a profuse hematemesis, usually ending in death. At autopsy a very superficial ulceration is found in no way resembling round ulcer. This ulceration is about the size of a franc piece—usually occupies the posterior wall of the stomach near the lesser curvature, and is often seen only after close observation. Dieulafoy believed this lesion to be due to very small abscesses of the mucosa, which cause a rupture of an artery, and that this was an early stage in the formation of a simple round ulcer. The conclusions have been disputed, and many writers have considered it an affection distinct from round ulcer, and due to a primary lesion of the arteries of the stomach, which in turn was associated with a chronic gastritis.

The writer reports a case occurring in a young woman of twenty-eight, an alcoholic and possibly syphilitic, in which a sudden hematemesis caused death. At autopsy a very superficial ulceration of the mucosa of the stomach was found, associated with a marked chronic gastritis involving all the walls of the stomach. In the area of superficial ulceration was marked endarteritis, which was evidently associated with the chronic gastritis.

The writer concludes:

1. The hemorrhage from a small gastric ulceration is not due to a vascular erosion by a small abscess, but is due to an independent vascular alteration.

2. The simple ulceration of the stomach cannot be considered an early stage of a round ulcer of the stomach because of its association with a chronic gastritis and marked endarteritis of the vessels.

3. The small ulceration is not a pathological entity, but in the majority of instances is associated with lesions of all the walls of the stomach, due to vascular alteration.

Pseudo-Hydrophobia in a Patient with Malaria. — Dr. J. Lebell in the *Annales de l'institut Pasteur for January*, 1900, describes an interesting case under this heading. Patient was a Moldavian sixteen years of age who was brought into contact with a hydrophobic cat but was not actually bitten by it. He was of a nervous temperament, and was much impressed by the conversation which he heard in the house regarding hydrophobia. Seven days after the animal had been killed patient complained of vertigo and of difficulty of breathing and swallowing liquids. The symptoms became more marked, and finally the patient was brought to the Pasteur Institut at Jassy where he was seen by Lebell. At this time he had a high fever, and an enlarged spleen, and history of a rise of temperature daily. He would take water into the mouth, but on attempting to swallow it a spasm of deglutition occurred. There was a respiratory spasm on blowing on the surface of the skin. Lebell suspected from the onset that the case was not true hydrophobia. Incubation of only seven days, although possible, occurs very rarely, and only in individuals who had been severely bitten by very rabid animals and when the bite was on the head. The persistence of hydrophobia, and aero-phobia, sixteen days after the onset of the disease was almost certainly against the supposition of a rabic infection, as the maximum duration of hydrophobia after it has once declared itself has never exceeded seven days. The patient was treated with quinine and suggestion with the result that the fever disappeared, as did all symptoms of hydrophobia.

A Typhoid Epidemic Due to Infected Drinking Water. — GENERSICH in the *Centralblatt für Bakteriologie* for *February* 24, 1900, publishes an interesting account of an explosive epidemic of water borne typhoid. The epidemic occurred in a Hungarian city in which there were present three separate and distinct water supplies—one of them supplying the Military Academy, the second supplying about half of the town, and the third supplying the other half of the town. Following a very dry autumn and early winter there occurred early in December a severe rain storm. The rain fall was so great that the cistern connected with one of the water supplies was flooded by the washing into it of the surface water. Three or four days after this storm it was noticed that the water in this cistern was cloudy and gave an unpleasant smell and taste. After some days typhoid fever cases began to appear in the portion of the town supplied by this water. The first of them appeared ten days after the storm, and they continued appearing for a period of but little over ten days. Practically all the cases had made their appearance within three weeks after the flooding of the cistern. The few cases that broke out after this date occurred in the form of sporadic cases among the attendants of those struck down by the original epidemic. In all 209 cases of typhoid fever occurred, of which number twenty-eight were fatal.

In connection with this epidemic the author refers to an almost identical epidemic which took place in the winter of 1890-91. This epidemic differed from the one first reported in that though it was explosive in character there were two explosive outbreaks with a period of freedom between them. Preceding both outbreaks by several days there had been either severe rain storms or a rapid melting of snow, so that the surface water had drained into the reservoir. In this instance the water supply infected had been the other main supply and not the one involved in the epidemic of 1898-99.

The author concludes his account with results of his bacteriological examination of the water in the last epidemic, and without going into technical details it may be said that he was able to isolate from the infected cistern numerous colonies of a typhoid bacillus which reacted to the most rigorous tests.

OBSTETRICS, GYNÆCOLOGY AND PÆDIATRICS

Edited by James P. Boyd, M. D.

A Case of Congenital Occlusion of the Stomach.—H. HAMMER, (*Wiener med. Wochenschr.*, November 25, 1899.) Report of the case of an infant who from the time of birth had vomited almost continously. She was only able to take extremely small quantities of milk and always vomited immediately. The child died on the eighth day. *Post mortem* findings were as follows: Stomach was full and very large; the intestinal canal was very much contracted all the way to the anus; the duodenum had a blind ending near the stomach and was connected to it by a band four mm. long and two mm. thick. This band could only allow a small bristle to pass through, and made it impossible for the stomach contents to pass out.

The Mortality and Treatment of Acute Intussusception.—By F. KAMMERER (*Archives of Pediatrics, February, 1900.*) The non-operative treatment is less in favor than formerly, and early operative interference has become popular. Of the bloodless methods, the author considers only one worthy of any serious consideration and that is the injection of fluids into the rectum. This method is applicable only to cases of intussusception in the large intestine, (the colic and ileo-cecal varieties.) Intussusception of the small gut cannot and should not be treated by water enemata. In very acute attacks changes may have taken place at the neck of the intussusception after the first day, and on account of the danger of rupture, would make the use of enemata a dangerous proceeding. In chronic cases enemata may be employed with impunity many weeks after the onset of the symptoms. Hydrostatic pressure of more than three feet should not be allowed in children. The most serious objection to the use of distention is the inability to recognize that reduction has really been accomplished. The following rules may be laid down for the application of forcible enemata: In acute cases an attempt at reduction should only be made very early in the case and only once. This attempt should only be made under complete anæsthesia with relaxed abdominal walls. Hot water should be employed in preference to iced water. In very acute cases this method should not be used. After one failure laparotomy is indicated. The author reports two cases in which laparotomy was done in very young children, six and three months of age. In both reduction was possible, in one at the end of the third day and the other during the second day. In both cases the intussusception was exposed through a median incision reaching from the symphysis beyond the umbilicus. When the abdomen has been opened the intussusception must be relieved in some way. A number of operative procedures are available: (1) resection of the entire intussusception with end to end suture or the establishment of an artificial anus; (2) resection of the intussusception after longitudinal incision of the sheath; (3) the establishment of an artificial anus or of a lateral anastomosis, leaving the intussusception untouched.

NEUROLOGY

Edited by Henry Hun, M. D.

Multiple Sclerosis after Trauma.— By Dr. COESTER (*Berl. klin. Woch., October 23, 1899*). The writer reports a case in which, following trauma, the characteristics, signs and symptoms of multiple sclerosis developed. The patient, a laboring man, was struck on the back and knocked down by a mass of frozen earth. He sustained a fracture of the left ankle with a tearing of the ligaments. About four months after the accident the patient complained of great fatigue when he attempted to walk. Four months later he complained of unsteadiness on walking. Ten months after the accident the physician discovered that the patient had some disease of the motor tracts of the cord. The symptoms were motor disturbance, ataxia, retention of the reflexes, with no sensory disturbances. The symptoms gradually became more marked and about one year after the accident a disturbance of speech developed. When seen, eight years after the accident, patient showed all the signs and symptoms of multiple sclerosis: speech disturbance, nystagmus, causeless weeping, intentional tremor, paresis of the upper extremities and marked spastic paresis of the lower extremities with sensory disturbances in both the upper and lower extremities. The writer is inclined to believe that the trauma was responsible for the development of the multiple sclerosis, for it was pretty definitely proved that the individual showed no evidence of nervous trouble before the accident. He does not discuss the nature of the injury that occurred in the central nervous system to produce the multiple sclerosis but quotes Erb as having expressed the view that after concussion of the central nervous system, in which there were apparently no definite lesions, as hemorrhage, contusion or laceration, sooner or later marked chronic progressive lesions could develop. These resemble in every particular the chronic progressive diseases of the central nervous system following the action of toxic, infectious, or other harmful agencies.

The writer also refers to an article by Mendel, in which he discusses the relationship of trauma to tabes and multiple sclerosis and in which he reports four cases of his own observation of these diseases in which he believes trauma was the essential ætiological factor.

Cerebral Diplegia.—JAMES S. COLLIER (*Brain, Autumn, 1899*) presents a summary of the present knowledge and opinions concerning cerebral diplegia, with reports of cases observed in the National Hospital for Paralyzed and Epileptic, and bibliography. A classification at present on ætiological grounds is impossible, and Rosenthal's summary is adopted. This includes cases of (1) generalized rigidity, (2) paraplegic rigidity, (3) bilateral spastic hemiplegia, (4) bilateral athetosis, (5) choreiform diplegia, and (6) atypical forms—slight generalized rigidity with profound mental changes.

The attributed ætiological factors are summarized:

(1.) Maternal pathological states during pregnancy: general ill-health, syphilis, specific fevers, eclampsia, pathological psychic states, and injury to the abdomen; (2) abnormalities of birth: premature birth, birth injuries, prolonged labor, precipitate labor, asphyxia neonatorum; (3) heredity and consanguinity of parents; (4) post-natal pathological conditions: acute infectious diseases and acute fevers, vascular lesions, epilepsy, acute encephalitis.

After a full consideration of the lesions, the author derives the following conclusions as to the pathology:

1. The cerebral lesions found in nearly all cases of diplegia are (1) atrophy of the convolutions; (2) porencephaly; (3) no coarse lesion but degeneration and disappearance of the cortical neurons.

2. The initial morbid process producing diffuse and lobar atrophic sclerosis are (1) degeneration of the neurons of the cerebral cortex; (2) vascular lesions, embolism, thrombosis and intracerebral hæmorrhage; (3) perhaps meningeal hæmorrhage.

3. Porencephaly may be produced by (1)arrest of development with tissue absorption owing to fœtal vascular disease; (2) direct injury to the brain; (3) vascular lesions after birth: embolism, thrombosis and intracerebral hæmorrhage; (4) it may also result from the process of tissue absorption and shrinking of the brain substance occurring in cerebral sclerosis, and may result as secondary process in degeneration of the cortical neurons.

4. Bilateral spastic hemiplegia is connected with deep lesions of the hemispheres. The other forms of diplegia are associated with superficial lesions of the hemispheres.

5. Athetotic and choreic diplegias are associated with superficial lesions of the cortex. In these types lesions of the corpora striata are not constant.

DERMATOLOGY

Edited by F. C. Curtis, M. D.

Syphilis from Dental Instruments. — Dr. Wm. L. Baum, Chicago; *Journal of the American Medical Association,* 27 January, 1900. The article reports six cases, treated by the author, in which the disease had been acquired from dental instruments. The first case was that of a young dentist, who undoubtedly had syphilis, but in whom was no evidence of its acquisition except from a sore made, with an instrument that he was using, when filling teeth, the wound being on the right index finger, near the matrix of the nail. He scouted the idea of the owner of the teeth he was then filling, having syphilis, since she was a most estimable woman, a social leader, in whom it would be almost a crime to suspect the presence of syphilis. Dr. Baum adds: "This last remark only too frequently presents the view of many members of our profession, as well as dentists, forgetting, as they do, that syphilis is a wide-spread disease, and that it is not necessarily a reproach to its victim, but often, perhaps more often than it is believed, innocently acquired."

The second case was that of a twenty-nine years' old man who had gotten a chancre on his tongue from a dental instrument. The syphilis was a typical case. The author concludes his report of the case with the words: "The patient made a rather uneventful recovery." The author is professor of skin and venereal diseases in the Post-Graduate Medical school, Chicago. It was at that school that case third applied, having a chancre on the lower lip, it having been acquired from a wound made by a dental instrument.

Case fourth was a woman, whose husband was healthy, they having five children; her injury from the dental instrument had been on the tongue.

Case fifth was that of a fifteen years old girl who had had a tonsillotomy done by a dentist who did not boil his instruments and who had removed another tonsil with the instrument in question a few days before.

The sixth case was that of a forty-seven years' old man whose initial sore was on the upper lip, at a point where, a few weeks earlier, a dentist had made a slight wound.

In all these cases, the infection might have been from drinking-utensils, pipes, etc., soon after the receipt of the wound from the dentist's instrument, though this is hardly probable. Syphilitic contagion may easily be carried by instruments or by the hands, but there must always be some abrasion present or it cannot be inoculated.

When syphilis is diagnosed, the patient should be sent to a dentist, in order that caries of the teeth may be remedied and gingivitis treated, before antisyphilitic treatment is begun. These precautions are necessary because they greatly lessen the dangers of hydrargyric stomatitis. Each dentist should be familiar with the appearance of spyhilitic lesions to be met in the mouth or fauces, and he should personally supervise the disinfection of his instruments by repeated boiling and immersion in formalin and creolin solutions. It might even be well to keep some instruments for use upon syphilitic cases only.

Septic Maculo-Papular Erythema following Angina.—KARL DEHIO (*St. Petersb. med. Woch.*, 1900, *No.* 9), has observed several cases presenting symptoms corresponding to the above title. There is no more uncertain region than that involved in the erythematous eruptions of various forms which lie in the border land between dermatology and medicine. The first patient was one who presented an acute febrile disease, which began with an ordinary follicular angina, with moderate fever and a light chill. On the evening of the second day the temperature arose to 40 deg. C., and at the same time there was a peculiar eruption of slightly elevated, intensely red spots, beginning on the backs of the hands and feet, and then spreading to the lower extremities, the neck, the face and the nates. This eruption continued with high fever until the sixth day of the disease, when it reached its height, the spots then having enlarged, showing a dark livid color in the centre with a border of more vivid red. These changes upon the outer surface were accompanied by severe general symptoms. The sensorium was dulled, the patient lay in delirium, the tongue was thickly coated, choking and vomiting prevented the ingestion of food and drink, the spleen was enlarged, the urine contained a trace of albumen and casts, and to the tumefaction of the tonsils were added an intense redness and swelling of the entire throat. Prostration reached a high degree. On the sixth day the fever fell by crisis, and after several morning remissions at the end of the second week permanently ceased.

There remained, as an indication of the eruption, a yellowish-brown pigmentation, which disappeared after a pronounced lamellar desquamation. Convalescence was slow, and the patient was confined to bed for four weeks, seven weeks having passed since the beginning of the attack.

Hebra and Kaposi, looking at these affections from the standpoint of the dermatologist, have regarded them as an erythema multiforme, Kaposi and Lewin explaining the condition as an angio-neurosis. Wunderlich and Gerhardt were the first to recognize the presence of an acute general infection, and Heubner attempted to group cases of erythema multiforme in three classes as they occurred (1) as a local acute or chronic febrile affection of the skin, (2) as an acute febrile general affection, and (3) as a complication of other general acute infections. More recently E. v.During has explained these conditions as an acute independent infectious disease, in which the involvement of the skin is to be taken as one of the manifestations. This condition has been described by Hebra as erythema exsudativum multiforme. No specific micro-organism has been discovered for this disease. We are inevitably drawn to the conclusion that a great part of the cases described in this way should be assigned to some of the acute exanthemata. When we leave the exanthemata, there comes into consideration a great variety of cases, as, toxic erythemas, as those from the ingestion of drugs or of certain foods; there are also the erythemas from pyæmias, in which class may be included puerperal fever, other forms of sepsis as well as the acute exanthemata. After discussing and excluding all of these forms, the author directs attention to the angina as the starting point for the severe toxic condition, which accounts for the great prostration, the affection of the nervous and alimentary systems and the disturbance of the skin.

Dehio reports a second case in which the erythema followed a light infectious catarrh of the air passages. It appears from these observations that we have to do, first, with a toxine, and secondly, with a predisposition to the eruption of the skin. There is thus shown an analogy in the ætiological conditions producing erythema, whether of medicamentous or toxic source, and the erythemas arising from these causes may be regarded as analogous.

PSYCHIATRY

Edited by G. Alder Blumer, M. D.

Epilepsy Terminating in General Paralysis.—WATTENBERG (*Archiv. f. Psych. u. Nervenkrankh., Vol. 32, Part 3*) describes a case of genuine epilepsy terminating in general paralysis. The occurrence of epileptiform seizures and similar attacks is well known in general paralysis, and the literature shows a few cases in which a strong suggestion of epilepsy has been given by preceding symptoms, but with a liberal interpretation of the phenomena of general paralysis and the recognition of a longer duration of the disease than the limit of two years which was formerly accepted, these occurrences may be taken as the prodromal manifestations. The author's case showed pure epileptic seizures at the age of eight, which increased in intensity until his admission to a hospital in a state of epileptic status at the age of thirty-three. Four years later he was again admitted into a general hospital with the diagnosis of "psychopathia epileptica," two years later again, and this time was transferred to a hospital for the insane. Here he developed expansive ideas and other mental and physical symptoms characteristic of general paralysis, of which he died. Trauma, alcoholism and syphilis were positively excluded. The case is the first of its kind on record, and justifies the following conclusions derived by the author:

1. It is shown that genuine epilepsy, to this time regarded as an independent, well defined psycho-neurosis, may precede general paralysis, and may terminate in the latter.
2. It is also demonstrated that general paralysis is not necessarily due to lues, but may develop entirely independently of venereal disease.
3. It is finally made evident that similar appearances both clinically and pathologically may be present in genuine epilepsy as well as in general paralysis, and that these in susceptible individuals may be due to certain endogenous toxines.

PATHOLOGY

Edited by George Blumer, M. D.

Concerning Micro-Organisms in Tumors. — Sjobring in the *Centralblatt für Bakteriologie* for *February* 5, 1900, discusses this subject at some length. He briefly reviews the most important literature which has been published within the last few years, and points out that the writers of these articles who claim to have found parasites placed these among the coccidia group. He also shows the great infrequency with which inoculation experiments have been successful. He then proceeds to describe a variety of organism which he has observed in various forms of new growth. These bodies, which he places in the general group of rhizopods, are entirely different from anything which has hitherto been described in connection with growths, judging from his descriptions and the drawings which accompany the article. He described them as beginning as small rounded bodies containing a central dark spot, subsequently showing as they grow larger amoeboid movements, and finally going over into forms of a spiral character, which give rise to new bodies. He was able to cultivate these bodies on a medium made up with peptone and gelatine and a small percentage of grape sugar with which was mixed fat of human origin and sterile ascetic fluid. From his cultures he inoculated animals, but claims that his inoculations are only preliminary as only eight were performed. In four out of the eight animals inoculated he was able to produce definite new growths, sometimes of an epithelial character—in one case a colloid cystoma. He claims to have isolated the micro-organisms out of thirty tumors of different kinds—carcinoma of the skin, breast, stomach, ovary and rectum. Out of sarcoma, ovarian cysts, goitres and uterine myomata.

Diagnostic and Therapeutic Significance of Tubercle Bacilli and other Bacteria in the Sputum. — By L. BRIEGER. *Berl. klin. Woch., March* 26, 1900. When it becomes possible to make a clinical diagnosis of tuberculosis by means of a physical examination or examination of the sputum, rather marked pathological changes have already occurred. For this reason the diagnostic value of Koch's tuberculin in very early cases of tuberculosis is unquestioned. In examining the sputum of tuberculous cases one should always select the yellowish white particles if any be present in the sputum. For staining the tubercle bacilli the writer recommends carbolfuchsin and decolorization with nitric acid, which he considers to be a much safer and more satisfactory decolorizing agent than sulphuric acid. In cases where it is impossible to obtain the sputum because of its being swallowed he advises the examination of the feces after having centrifugalized them according to the method recommended by Biedert. In many such instances he has succeeded in finding the tubercle bacilli in the feces when there was no evidence of any involvement of the gastro-intestinal tract. In certain cases of beginning, or even advanced phthisis, it may be impossible to find tubercle bacilli in the sputum for a considerable period. The writer calls attention to the importance of differentiating pseudo-tubercle bacilli which occasionally occur in diseased process in the lung from the true tubercle bacilli.

The fever of consumptives is usually the result of a mixed infection, for pure local tuberculosis almost always runs on a febrile course. The mixed infection also often gives rise to a great increase in the quantity of the sputum. The streptococcus, staphylococcus and pneumococcus are often found in association with the tubercle bacilli. The hectic fever with chills and night-sweats is usually the result of the streptococcus infection. The influenza bacilli also appear to play a role in the sputum of tuberculous patients, which is evidenced by the greatly increased death rate among the consumptives during an epidemic of influenza. The bacillus pyocyaneus and the micrococcus tetragenus are also found in the sputum of tuberculous patients. Great care should be exercised in the hygiene of the mouth of phthisical patients for this is the usual source of the secondary infections. The therapeutic action of the aromatic drugs such as creosote and its derivatives seems to depend upon their antiseptic action upon the secondary infecting micro-organisms, for they appear to have little antiseptic action upon the tubercle bacilli. Life in the mountains or at high altitudes is of value, especially because it restrains the secondary infections.

OPHTHALMOLOGY

Edited by C. M. Culver, M. D.

Management of Cases of High Anisometropia.—Dr. EDWARD JACKSON, of Denver, read a paper, having this title, before the Section on Ophthalmology, in June, and it is reported in the issue of the *Journal of the American Medical Association* for the 2nd of December, 1899. The report is of 1000 consecutive cases of ametropia requiring correction; 62 presented one eye at least 1.0 D. more hyperopic or more myopic than the other. Of these the difference amounted to 2.0 D. or upward (which may properly be considered high anisometropia) in 27. In 43 cases the astigmatism was greater by 2.0 D., in one eye than its fellow; or there was 1.0 D. or upward in each eye, and 20 degrees or more difference in the directions of the meridians of greatest refraction. Among these the difference of astigmatism was 4.0 D., or there were 2.0 D. of astigmatism in each eye with 20 degrees of divergence of meridians in 19 cases. Among 1000 cases of ametropia there were, therefore, 107 that may be practically classed as cases of anisometropia; and of these, 46 of high ametropia. That the management of these cases is of much practical importance needs no further illustration.

In the practical management of anisometropia, the special difficulty to be met is the lack of correspondence in the two retinal images. This lack of correspondence is as great, as annoying and as persistent when it lies in the shape of these images, as when the difference is of size.

As to management, cases of anisometropia may be divided into two groups, those that are best served by binocular vision and those who most satisfactorily use one eye for far-seeing and the other for near-seeing. Donders' third class, in which there is "constant exclusion of one eye," has no place in a practical consideration of the subject. A patient with one eye does not have anisometropia; and if one eye be blind, anisometropia does not enter, as a practical factor, to influence the management of the case.

In most cases or anisometropia one eye sees better than the other; even if one sees very much better than the other, the worse usually, if the eyes be properly directed, aids in a kind of binocular vision. If the poorer eye deviates, the case becomes one of anisometropia with squint. If the squint can be eliminated, the case immediately falls under one of the two heads first mentioned.

This point is emphasized because Donders' third class has furnished a convenient dumping ground into which have been pitched many cases of anisometropia, by those who lack the time, patience or mastery of objective methods, for measuring refraction, that are required in dealing with such cases. To correct the better eye and "neglect" the other is strictly a case of neglect. Something can nearly always be done to help the worse eye, even when it is not practical to give it a full correction.

Lenses given for alternating vision cause the same troubles while the wearer is becoming accustomed to their use as do lenses of equal strength for cases free from anisometropia. But they do not cause the difficulties that attend fusion of the images after correction of anisometropia, in patients capable of binocular vision. In these latter, special difficulties are very real and often very great. One patient says: "I feel as if I were about ten feet high!" Another says: "I am too old a man to be walking up hill the rest of my life!" and so on.

Each case must be the subject of careful, individual study; and the selection of a lens for the worse eye, at first, somewhat tentative. But our efforts may be directed very definitely toward certain objects.

In anisometropia, the placing of the lenses closer to the eye lessens the annoyance caused by differences between them, because the nearer the lens is to the eye the less it affects the nodal points of the dioptric system, and the size of the retinal image.

In rare cases of very high myopia in one eye with the other eye but slightly myopic or hyperopic, the removal of the crystalline lens from the myopic eye would be proper. The difference in the refraction of the two eyes necessary to justify this measure is not less than 12 D. If corneal incision ever comes into practical use to modify high astigmatism, it will first be proper to apply it in cases of high anisometropia.

Sarcoma of the Eyelids.—In the *Philadelphia Medical Journal* or thef 25th of November, 1899, Dr. C. A. VEASEY analyses fifty reporteo cases. He notes especially a case of his own, of primary, nonpigmented sarcoma, which he thinks is worthy of note because of the infrequency of the affection, and because of points of similarity between it and a chalazion.

This case is of A. S., a Polish tailor, aged 45 years, who presented himself at the Philadelphia Polyclinic Hospital, September, '98, with a small growth on the left, upper eyelid. He had noticed it four months earlier; it had meantime been gradually increasing in size. No pain at any time, nor history of injury; no family history of tumors. In September, '98, the growth was small, firm and ovoid in shape, extending upward and outward from near the middle of the lid margin, nine mm. wide, twelve mm. long; closely resembling a chalazion in color; adherent to the overlying skin, freely mobile over the underlying tarsus; color that of well diluted claret. It could be drawn from the tarsus as far as the skin would permit, showing absence of connection between tarsus and tumor.

Longitudinal incision permitted the skin to be separated from it, after which it was easily dissected out.

Macroscopically it was a very hard, encapsulated, solid growth of light reddish color, seven by ten millimeters and consisted of several lobules. Section of the surface smooth and hard. Prepared in a formalin solution, sections were made by Dr. J. Dutton Steele, who reported the microscopic appearances as follows:

"Half of the whole tumor was embedded in celloidin and the section stained with Delafield's hematoxylin and eosin. When examined microscropically the growth is seen to have a capsule of fibrous connective tissue that sends processes into the body of the tumor, but can not be said to give it an alveolar structure, although these connective tissue bands divide it into the lobules mentioned. The whole mass is seen to consist of spindle-shaped cells with oval and intensely staining nuclei that run in bundles in different directions and are cut at different angles by the plane of the section. The cross sections of these cells and their nuclei are round. There is a very small amount of intercellular substance. The only blood vessels seen are large channels with walls formed by the cells of the growth with a lining of a single layer of endothelial cells. In several places the blood has escaped and infiltrated the surrounding tissue to form small hemorrhages. There are no areas of degeneration, and the cells everywhere stain evenly and well. The pathologic diagnosis is spindle celled sarcoma."

Of the 50 cases, the youngest was seven months, the oldest 76 years. Duration of growth before operation varied from a few weeks to 13 years. Size of the growth from that of a pin's head to that of an apple. In a few all four lids were involved, and in some it was necessary to remove the eye with the growth. It was found somewhat more frequently in females than in males. This corresponds with the conclusions reached in the author's analysis of 46 cases of primary sarcoma of the iris. In about 12.5%, mostly children, the disease was the cause of death. In about 30% recurrence was mentioned.

Reference to recurrence is, however, so seldom made in the literature of the subject that no trustworthy conclusions concerning it could be reached.

Microscopically 38.5% were spindle-celled; 38.5% round-celled, and 23% mixed-celled. There was more or less pigment in 26%, and 14% were encapsulated, though in many the encapsulation was only partial.

Supra-Renal Extract.—Drs. LEWIS and WEBSTER (*London Ophthalmic Review for December, 1899,*) had some very unpleasant experiences with supra-renal extract in cases of ophthalmia neonatorum. In these cases, although there was a slight improvement at first and the red conjunctiva became less hyperæmic, the corneal ulcers perforated, the pain continued and the amount of pus did not diminish materially. In some cases of hypopyon keratitis, Lewis was better pleased. Before doing paracentesis, a few drops of a ten per cent. solution of supra-renal capsule were instilled as well as cocaine, when the operation was painless, the inflamed conjunctiva more blanched than is at all usual, and the eye could be fixed with forceps painlessly, which is never the case when cocaine alone is used.

BATES (*Archives of Ophthalmology, Vol. XXVIII, No. 3, 1899*) thinks this extract a powerful astringent, reducing the vascularity of the tissue whether normal or hyperæmic, and this without being influenced by the cause. Instilled in the eye it does not affect the pupil; is not an anaesthetic; has no after-effect, as to increase the hyperaemia or pain when the astringent influence ceases; causes no desquamation of the corneal epithelium. Hypodermatic injection of the extract is very painful. Instilled into the eye and absorbed into the general circulation, it acts as a heart tonic.

Bates insists that no other substance should be added to the solution as a preservative. After many experiments he concludes that such an adjoined preservative was useless, if not harmful. He thinks the vessel-constricting action of the extract particularly valuable in cases of congestive glaucoma, for after its instillation, cocaine, which was previously prevented from acting, is able to produce anæsthesia.

LARYNGOLOGY AND RHINOLOGY

Edited by C. F. Theisen, M. D.

Subhyoid Pharyngotomy for the Removal of a Malignant Growth of the Larynx. — F. J. LUTZ, in *Philadelphia Med. Journal, February* 24, 1900, reports a successful operation for the removal of an epithelioma of the larynx. The available records for the study of malignant laryngeal new growths are very scanty, the latest compilation by Sendziak of Warsaw comprising only 502 cases altogether, 452 being carcinoma and fifty sarcoma. Out of this number the subhyoid method for reaching the tumor was chosen twelve times, in eight cases of carcinoma and in four of sarcoma. In carcinoma, removal should be attempted by this method, according to the compiler, in cases of extrinsic carcinoma, by which term the French designate carcinoma which originates in the epiglottis, the aryepiglottic fold, the arytenoids and the upper and posterior parts of the interarytenoid fold. More than one-half of the cases ended fatally from the operation, a result by no means encouraging. In the removal of four sarcomas by this method, two are reported as successful, but no details are given. In the third, two endolaryngeal operations were followed by return of the disease, which remained well for one and one-half years after the excision of the growth through the thyrohyoid opening. The fourth patient fared well for two months, but an abscess formed in the cicatrix of the wound, which had healed by first intention, and the subsequent history could not be traced. In the author's case the operation was done for the relief of the dyspnoea and dysphagia, No preliminary tracheotomy was done, and local anæsthesia by infiltration with hot water and the application of a four per cent solution of cocain to the mucous membrane, permitted all the necessary manipulations without pain, and with the patient's intelligent co-operation. Laryngoscopic examination of the patient's throat, a man aged seventy-three showed the presence, on the right side near the base of the epiglottis, of an oblong tumor of irregular outline, extending across two-thirds of the larynx. The tumor also extended downwardly and inwardly covering the œsophageal opening. The operation was done as follows: the skin was infiltrated and a transverse incision was made through the integument about a third of an inch below the hyoid bone, extending from the anterior border of the sternomastoid muscle to a similar point on the opposite side. The anterior and external jugular veins were divided between two ligatures, together with the superficial fascia. After cocainizing the mucous membrane of the throat, the thyrohyoid and mucous membrane were incised through to the opposite side. A loop of silk thread passed through the epiglottis drew it downward and forward, thus giving wide and free access to the cavity. The growth proved to be one and one-half inches wide, with a base fully an inch in diameter. The incision of the mucous membrane had laid open the base of the tumor and one blade of a pair of scissors was readily inserted beneath the mucous membrane, and the tumor severed from its connections. The hemorrhage was trifling; the pressure of the hemostatics controlled it perfectly. The several structures were reunited with catgut-sutures, and union by first intention resulted. After forty-eight hours, rectal alimentation was discontinued and liquid nourishment introduced by the mouth. The patient lived for a month; during this time the dyspnœa and dysphagia had disappeared. Death resulted trom inanition.

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HISTORICAL AND PRACTICAL CONSIDERATIONS REGARDING EXPERT TESTIMONY.*

BY LEARNED HAND, LL. B.,

of the Albany Bar.

No one will deny that the law should in some way effectively use expert knowledge wherever it will aid in settling disputes. The only question is as to how it can do so best. In early times and before trial by jury was much developed, there seem to have been two modes of using what expert knowledge there was: first, to select as jurymen such persons as were by experience especially fitted to know the class of facts which were before them, and second, to call to the aid of the court skilled persons whose opinion it might adopt or not as it pleased. Both these methods exist at least theoretically at the present day, though each has practically given place to the third and much more recent method of calling before the jury skilled persons, as witnesses. No doubt there are good historical reasons why this third method has survived, but they by no means justify its continued existence, and it is, as I conceive, in fact an anomaly fertile of much practical inconvenience.

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*So far as concerns the attempt to trace the outline of the origin of expert evidence, I must acknowledge my great and almost entire indebtedness for materials to Professor James B. Thayer, of Cambridge, who has so much made the whole subject of evidence his own that no one can come into it without feeling, to a certain degree, a trespasser. It is but fair to say, however, that Professor Thayer is in no sense the sponsor of any one of the conclusions in this article, historical or otherwise, and that I do not even know that any one of them would meet with his approval, however grateful to me might be such a result.

In regard to the material in *Howell's State Trials*, I cannot say that I have found by any means all of it. I have been over all the trials up to 1780 with more or less thoroughness, but cannot of course, suppose that much has not escaped my notice.

The first method mentioned above was to empanel a special jury, which in this connection means a jury of persons especially fitted to judge of the peculiar facts upon which the particular issue at bar turns. The practice is certainly old, at least in one instance of like kind, the jury of matrons *de ventre inspiciendo.* Bracton[*] gives the form of the writ in which it is essentially the same as the actual practice even in this century, in 1838.[†] Moreover, we find in the writ the reason for this peculiar procedure. The *legales et discretas mulieres per quas veritas melius sciri poterit* shall see the woman whose condition is to be examined and are to satisfy themselves by certain specified methods, *quibus inde melius possit certiorari utrum prægnans sit necne.* True it is we do not learn from Bracton to what extent what the jury said was binding. They did not speak of the whole issue between the parties and the procedure was incidental merely to the issuance of a writ to the lord to let into possession one tenant or another, but I cannot think that this is a distinction of any significance; the fact remains that a jury of persons supposed to be especially skilled was summoned and their conclusion was in fact followed by the court, or at least formed an element as fact in its decision. This practice we know has continued even to this century.[‡]

But the writ *de ventre inspiciendo* was by no means the only case of a jury of persons peculiarly qualified upon the issue. The custom was not only known but exceedingly common in the city of London throughout the fourteenth century in trade disputes.[§]

Many of the cases are informations by the supervisors of the different guilds who in accordance with their oaths brought before the Mayor offenders against the trade regulations. The Mayor then summoned a jury of men of that trade and their verdict decided whether the defendant had offended the trade regulations and upon it the Mayor gave sentence.[¶]

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[*] DeLeg. Lib. II. fol. 69.

[†] Reg. v. Wycherly, 8 C. and P. 262.

[‡] Willoughby's Case, Cro. Eliz. 566 (1597) Reg. v. Wycherly (supra).

[§] These cases are to be found in Henry Thomas Riley's "Memorials of London and London Life in the 13th, 14th and 15th Centuries." Longmans, Green & Co., 1868.

[¶] The following are some instances:
Fishing nets with meshes smaller than those required by the trade ordinance Riley, pp 107 (1313), 135 (1320), 214 (1343), 219 (1344), 220 (1344), 483 (1385), 486 (1386).
Improper tanning of hides: Riley, pp. 135 (1320), 420 (1378).
False tapestry: Riley pp. 260 (1350), 375 (1374).
Improper hats and caps: Riley pp. 90 (1311), 529 (1391).
False pewter vessels: Riley, p. 259 (1350).
False gloves: Riley, 249 (1350).
False wine: Riley, 318, (1364).

But this was not the only case. Often it happened that either the public prosecutor or some private person, either individually or through the public prosecutor, would present to the Mayor his grievance in that he personally had suffered false usage at the hands of tradesmen, e. g., selling him putrid meat, or bad wine. In these cases the Mayor would likewise summon persons of the trade of the man accused, as being well acquainted with the facts and their verdict would decide and the Mayor direct sentence accordingly.*

These cases at least show that in an urban community where alone for the most part questions involving special skill would come up, the practice was well established in the fourteenth century of having the issue actually decided by people especially qualified.

The special jury continued as an institution of England. So we find in 1645 † that the court summoned a jury of merchants to try merchants' affairs "because it was conceived they might have better Knowledge of the Matters in Difference which were to be tried, than others could, who were not of that Profession."

Blackstone speaks of the special jury as still an existing institution though it had then for the most part been limited to cases where a "struck" jury is demanded owing to a supposed bias in the sheriff; a form of impanelling a jury which went under the same name as the jury of experts, and which exists to-day.

I mention this form of using expert knowledge, not because it is a feasible or practical means of solving our present question, but to show that our present method of using experts as witnesses was not the earliest or the only means used.

The second method mentioned above was to summon to the advice of the court certain skilled persons to help it out of its difficulties. I wish particularly to distinguish here between what we should to-day call matter of fact for the court and matter of fact for the jury. The cases I shall mention are those in which during the procedure incident to the conduct of a case there arose some question of fact which the court had to decide. That is, the court having no rule of law to administer and not intending to establish any, had a mere question up of the decision of something in that particular case, and summoned experts to help it where its knowledge was lacking.

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*The following are instances of this:

Selling putrid victuals, the prosecution being apparently public, no complainant appearing in the case: Riley, pp. 328 (1365), 408 (1377), 448 (1381), 471 (1382), 516 (1390)

Selling putrid victuals, private prosecution; Riley, pp. 266 (1351), 464 (1382).

Malpractice by a surgeon, whether the prosecution was public or private does not appear: Riley, p 273 (1354).

†Lilly's Practical Register, II, 154.

In 1345[*] in an appeal of mayhem the court summoned surgeons from London to aid them in learning whether or not the wound was fresh. This was, however, in deciding whether or no the appellant should be allowed to go to trial at all. In 1506[**] it was discussed collaterally by the court and left in doubt whether the question of the appellant's wound, as permanent or not, was a proper question for the court or for surgeons. Perhaps the learning in the procedure of appeal of battle had become somewhat archaic in 160 years.

Again in construing a bond in 1494[†] which contained certain doubtful words, the court called to its assistance certain "masters of grammar," who incidentally failed to help it much. Again in 1555[††] we find the court saying that it is accustomed to call in grammarians to help it interpret the pleas before them when the court's Latin halts a little. The same usage became well established in the interpretation of commercial instruments[‡] and in the eighteenth century extended itself, as we know, not only from decisions made by the court upon the facts, but even to the rulings it made upon points of law For example Lee, C. J., in 1753[§] charged the jury upon the liability of the parties in accordance with the opinion of certain merchants who had testified.

Lord Hardwicke also ruled in accordance with the views of the reputable merchants whom he summoned.[§§]

Even Lord Holt before deciding the celebrated case of Buller v. Crips[¶] asked the opinion of London merchants as to the effect of refusing negotiability to promissory notes.[¶¶]

The real question that arises is how to put at the disposal of the jury the knowledge of experts in their decision of the issue. This though a kindred question should be sharply distinguished.

Before considering this question we must however try to discriminate between an expert witness and any other. First it must be remembered that an expert witness may have observed the actual facts upon which the issue turns; then he is able to testify to them as well as to his inference from them and he may be therefore both a common and an expert witness in one. But it is not as a witness of facts at all that his position is peculiar; it is because as an expert witness he is allowed to testify to his conclusion from the facts, which he has either himself observed or which are in evidence from the testimony of others. His position is only peculiar in that a common witness is forbidden to testify to conclusions, and the history of the origin of expert witnesses must necessarily be simply the history of the exception in his favor to the rule that witnesses shall testify only to facts and not to inferences.

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[*] Anonymous Lib. Ass 28 pl. 5 (28 Ed. III.)

[**] Anonymous, 21. H. VII, 33 pl. 30.

[†] Anonymous 9 H. 7, 16 pl. 8.

[††] Buckley v. Thomas, 1 Plow. 118.

[‡] For such a case in 1640, see Pickering v. Barkley, Styles 132.

[§] Fearon v. Bowers, 1 H. Black, 304, note a.

[§§] Ekins v Macklish, Ambler 184 (1753), and Kruger v. Wilcox, Ambler 252 (1755).

[¶] 6 Mod. 29 (1703).

[¶¶] See also a late case: Chauraud v. Angerstein, Peake 43 (1791).

This is better explained by considering briefly the rise of the rule as to conclusions. It is common learning to-day that originally and indeed for many years the jury had no witnesses present before them at all. They went about before or during the trial informing themselves as they might of the facts at issue. Not until the middle of the fifteenth century was even the practice of summoning witnesses well settled as an incident to the trial, and it was still later that any compulsory process became available.*

That the rules of evidence are merely certain regulations to govern the evidence which the jury shall hear and that they are the offspring of the judicial control of the verdict, Mr. Thayer has made entirely clear. But these rules grew up but slowly and through the decision of judges, gradually eliminating certain material from the mass of what witnesses might say in court.

The rule that a witness shall not testify to mere opinion or conclusion is such a rule and its origin no doubt was, if we could trace it, due to a gradual recognition by successive judges of the advantage of curtailing the trial and simplifying the issue by leaving out redundant matter. I call this redundant because in fact the opinion of the witness upon the issue can have no useful bearing on the case, and trenches on the jury's function. It is the jury that should form the opinion, make the conclusion and say truly—*vere dicere*—the fact, not the witness; he merely says what he knows. Therefore this rule of evidence—if in view of this it may be properly called such,—is somewhat different from those which shut off certain facts actually probative of the issue. Moreover, it was recognized comparatively early in the history of rules of evidence. For we find Vaughan, C. J., that great defender of the right of juries to go "on their own knowledge," well saying in Bushell's case in 1671.* "The Verdict of a Jury and Evidence of a Witness are very different things, in the truth and falsehood of them; a Witness swears but to what he hath heard or seen, generally or more largely, to what hath fallen under his senses. But a Juryman swears to what he can inferr and conclude from the Testimony of such Witnesses by the act and force of the Understanding, to be the Fact inquired after, which differs nothing in the Reason, though much in the punishment, from what a Judge, out of various Cases consider'd by him, inferrs to be the Law in the Question before him." The distinction cannot be put more plainly

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*Mr. James B. Thayer, in his "Preliminary Treatise on Evidence at the Common Law," pp. 122-136 concludes that the practice became established about the middle of the 15th century, though it remained an unimportant incident of trials for some time thereafter.

Yet in 1622 it had been said that† a witness could testify to the very issue involved, that he knew it to be true, if another testify to the circumstances in detail; i. e., the conclusion of the witness upon the very issue is admissible if supported by other evidence.

I cannot find any other cases in the seventeenth century which seem to illustrate the rule that the conclusions of a witness are inadmissible as such. The rule would seem to be one obviously necessary early in the history of the control by the courts of trials, and it is very likely that many cases exist which illustrate the rule, but I think it may fairly be said that in Vaughan's time the citation above quoted shows that the rationale of the rule was well grasped, even if it was not always enforced.

As to the exception to the rule in favor of expert witnesses, of course that could not exist until the rule did, for if the exception proves the rule, *a fortiori* the rule is a condition to the existence of the exception. I can therefore only cite several cases in which expert witnesses did testify finishing by some cases where their testimony was consciously admitted by the court as an exception to the rule regarding conclusions.

In Alsop v. Bowtrell,‡ 1620, certain physicians testified that it might well be that a woman bore a child forty weeks and nine days after her husband's death, and yet it be his child, for the time might be delayed by ill usage and lack of strength. And so the

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*Vaughan, 142, 22 Car 2.
†Adams v. Canon. Dyer 53b, note.
‡Cro Jac. 541.

court, agreeing with the physicians, delivered to the jury that it might be so. The case involved the legitimacy of the child. I think it should be noted in this, the first case which I have found of real expert testimony,—by which I mean a case where the conclusions of skilled persons were submitted to the jury,—that the witnesses are not stated to have been called on either side; and from the meagre report we have, they seem to have satisfied the court in the first instance of the truth of their conclusion before the evidence went to the jury. The court finally found the general proposition to be true and delivered it as *datum* to the jury to use in their final conclusion.

In the Witches' case* in 1665 Dr. Brown, of Norwich, was desired to state his opinion of the accused persons and he was clearly of opinion that they were witches and he elaborated his opinion by a scientific explanation of the fits to which they were subject. It did not appear in this case by whom Dr. Brown was called as a witness and his position is doubtful for our purposes, though he spoke of a question of fact.

Rex v. Pembroke,† in 1678, is more instructive. This was a trial of murder and the question was up as to the real cause of the deceased's death. Physicians were called on either side who testified under the examination of the attorney for the prosecution,or of the prisoner, both as to what were the causes of certain symptoms observed upon an autopsy they had seen and as to the general proposition as to whether a man can die of wounds without fever. It is true that the court took a hand in this evidence, but that is common enough to-day, and the only striking feature of the whole matter is in the fact that no one seemed to think it unusual. We must conclude from this that the rule excluding the conclusions of witnesses was not enforced often enough to make such a violation worth notice.

The same kind of case is found in the following year in Rex v. Green,‡ where a physician is called for the prosecution and testifies that the deceased could not have died from certain wounds upon his body as they gave no blood, but that he must have died from being strangled. Still another case of the sort is Rex v. Coningsmark,§ in 1682.

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*6 How. St. Tr. 697.
†6 How. St. Tr. pp. 1337, 1338, 1340, 1341.
‡7 Howell State Trials, 185, 186.
§9 Howell State Trials, 21

In Spencer Cowper's case * in 1699 the question was whether the deceased had been drowned. Certain surgeons testified that they had examined the body and found no water in it, so that it must have been dead when it entered the water. Other surgeons answered in general to certain hypothetical questions as to whether a drowned body full of water would sink. In addition sailors who had been in sea fights testified to the same questions, an interesting addition which would hardly be allowed to-day.

In the eighteenth century the practice was certainly well established and numerous instances of it can be found.†

In Rex v. Heath, 18 How. State Trials, 76 (1744), the court made a remark which is certainly significant of the general rule though the exception to it was not noted. The trial was for perjury upon a former trial in ejectment, in swearing that Lady Altham had never had a child. The witness had testified that he had seen Lady Altham at one time with a "big belly." The counsel then asked (76) "What do you apprehend became of that big belly?" On objection the court (Irish K. B., Marley, C. J., Ward and Blennerhasset, J. J.) said: "The apprehension of a witness is asked where no other evidence can be had in capital cases; as where a witness is produced to prove a wound given, he is asked whether, he apprehends that wound was the cause of death. That must be asked, for he cannot tell otherwise. It is the best evidence that can be had in that case. But as to a fact, if you make the apprehension of a witness necessary, it takes away all proof of fact."

I confess that the last sentence is altogether enigmatical to me, but as to the first it shows that conclusions were as nearly "inadmissible" as was at that time known. Because it must be remembered that all through the eighteenth century, the rules of evidence were unknown in the strictness that we apply them. Thus Baron Gilbert in 1760 ‡ lays it down that the only rule is that of

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*13 Howell State Trials, 1126-1135.

†Below are the cases that I have been able to find from an examination of Howell's State Trials, the usual edition of 1824:

Rex. v. Kidd, 14 Howell State Trials, 137 (1701).
Rex. v. Heath, 18 Howell State Trials, 68, 69, 70, 71, 73, 84 (1744).
Rex. v. Blandy, 18 Howell State Trials, 1138, 1139, 1159 (1744).
Rex. v. Canning, 19 Howell State Trials, 523 (1754).
Rex. v. Stevenson, 19 Howell State Trials, 860 (1759).
Rex. v. Ferrers, 19 Howell State Trials, 939, 940, 941 (1760).

this testimony was however as to madness and was given by laymen.

Rex. v. Byron, 19 Howell State Trials, 1207 (1766).

‡Gilbert on Evidence, 2nd ed. London, 1760, *passim*.

the best evidence the case admits, and he would even admit hearsay when "corrobative" and not given as sole support of a fact;* so also Buller's Nisi Prius.†

Further we find in the trial of Lord Ferrers for murder in 1760‡ where the defense attempted was that of insanity, that the admission of expert evidence was already subject to a rule we are now thoroughly familiar with, and one, which presupposes, I think, considerable use of that form of testimony. Prior witnesses had testified to strange and supposedly insane acts of the defendant. A surgeon was then called and asked whether from all the facts he would say that the defendant was insane. The Crown counsel objected, and Lord Mansfield—the trial being of course before the Lords—directed the defendant that he might not put such a general question, but that if he would specify the precise facts, already in evidence upon which he wished to base the surgeon's opinion, he doubted not that the Crown would not object. Whereupon the defendant put a number of questions based upon specific acts already in evidence which the surgeon in each case—how history repeats itself!—testified were symptoms of insanity. To professional readers it may be in addition interesting to know that the jury, *i. e.*, the Lords, seem to have preferred their own inference to the surgeon's and convicted the defendant.

There are criminal cases, but in 1872 in a civil case before Lord Mansfield in K. B. § a new trial was granted, because of the exclusion of the testimony of engineers as to their opinion of the cause of the filling of a harbour, alleged to be caused by a sea wall, which it was the object of the action to abate on information as a nuisance. It did not appear in this case whether or no the engineers had personally ever seen the wall or its effects, though perhaps it is fair to presume that they had. This case is, I believe, usually regarded as the first in which the point was raised.

In 1790, however, it was ruled by Lord Kenyon at *Nisi Prius*,¶ that experts might give what was merely opinion from facts in evidence, though Erskine, who was of counsel, took the point that their opinion was necessarily of less value than that of those who had seen the facts.

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*Gilbert on Evidence, p. 153.
†Buller's Nisi Prius, p. 294b.
‡Rex v. Ferrers, 19 Howell's State Trials, 942-944.
§ Folkes v. Chadd, 3 Doug. 157.
¶ Thornton v. The Royal Exch. Ass. Co., Peake, 25

In 1795 in an edition of Gilbert on evidence prepared by Capel Lofft, an English barrister,* on page 301, I find an interpolation—which does not exist in the second edition published nos1760,—entitled "Of proof by experts" as follows: "The Proof from the Attestation of Persons on their professional Knowledge, we may properly, with the *French* Lawyers call Proof by *Experts*.

"In proportion as *Experience* and *Science* advances, the uncertainty and danger from this kind of proof diminishes. * * *

"In general it may be taken that where Testimonies of professional Men of just Estimation are *affirmative*, they may be safely credited; but when *negative*, they do not amount to a disproof of a charge otherwise established by various and independent circumstances."

This last seems to be a personal affirmation of Lofft's.

Finally Lord Ellenborough distinctly ruled upon the general question in 1807,† and that ruling will be the end for me of this historical comment, as that rule by him distinctly recognized the significance and bearing of the whole subject. The case was on a marine insurance policy, the defense being unseaworthiness. The defendant offered to call several eminent surveyors who had not seen the ship and who were to testify as to their opinion from facts in evidence. Garrow for the plaintiff objected that this was for the jury to decide from the facts, but was overruled, Lord Ellenborough saying: "As the truth of the facts stated to them was not certainly known, their opinion might not go for much; but still it was admissible evidence. The prejudice alluded to might be removed by asking them in cross examination, what they should think upon the statement of facts contended for on the other side."

There is one kind of evidence which is opinion evidence and which ran along side by side with the cases I have mentioned, i. e., testimony from a comparison of hands, or from a conclusion drawn by the witness from his knowledge of former handwriting of the person supposed to have written the paper in controversy. It does not seem to me properly to concern our subject, though it is opinion evidence. There are instances, however—and they have to-day become very common indeed—when this kind of evidence is in the strictest sense expert, that is, where a comparison of

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*Gilbert's "The Law of Evidence." Edition of Capel Lofft, Dublin, 1795.
†Beckwith v. Sydebotham, 1 Camp. 116.

documents is made by those peculiarly skilled in the comparison of hands. I have found no case of this earlier than 1792,* where post-office clerks testified as to whether a proposed will was in a natural or forged hand, and also as to the comparison between the document in dispute and a true memorandum.

Buller, J., in sustaining the evidence, cited Folkes v. Chadd (supra) and Lord Kenyon said he remembered a case where a decipherer gave an opinion without any grounds for it, which was enough to convict and hang the defendant. This was perhaps only a sporadic and unusual case † and Lord Kenyon's opinion remained doubtful thereafter. Professor J. H. Wigmore does not regard the practice as really settled until the middle of this century, and then by statute. In so far as this species of evidence is expert evidence, therefore, I think it is safe to say it hinges on what I have already tried to trace historically and is not to be connected with the rules as to handwriting or the subtleties relating to comparison of hands.

The upshot of this examination seems to be that the use of experts as witnesses existed when the present exclusive rules of evidence were not yet developed or enforced; that as the rule excluding the opinions or conclusions of witnesses took form, the use of experts being established and convenient, remained unaffected when other opinion evidence disappeared. What I have called the "exception" which expert evidence represents is therefore no more than a relic of the usage of an undeveloped age which had not so far differentiated witness from jury as rigidly to confine each to its function. The rise of expert testimony is no more than the gradual recognition of such testimony, amid the gradual definition of rules of evidence, as a permissible, because supposedly useful, archaïsm.

Having briefly considered the history of the present position of expert witnesses the really practical question is whether it is the best way to use the information they can give. There are two things I wish to prove: first, that logically the expert is an anomaly; second, that from the legal anomaly serious practical difficulties arise.

As to the anomaly, there is perhaps no reason to expatiate much further. The expert is in effect not telling of facts at all, but of uniform physical rules, natural laws or general principles which the jury must apply to the facts.[*]

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*Goodtitle v. Braham, 4 T. R. 497 (1792).

†J. W. Wigmore, 30 Am. L. Rev. note on p. 495 (1896).

At the expense of some formal logic I wish to try to analyze the processes involved in this whole question, because I think that the anomaly I assert can only so be proved. In our system of law the pleadings should reduce the dispute between the contestants to one or more propositions of fact, of which one side asserts the truth and which the other denies. For example let us suppose a case of slander: A complains that B said he forged a note; B says the fact is that A did forge a note. This B denies. There is only one question of fact; did A forge a note? B seeks to prove it, A to deny it.[†] To prove this B will put in evidence ordinarily a number of facts from which he hopes that the jury will make the inference he wishes. For example he will bring up H to say he saw A do it, F to say he heard A admit it, E to say that he, whose name appears on it, did not sign it, and so on. A will in turn bring up X to say that H was with him and far from A at the time, Y that F was mistaken in what he heard, Z that E had possession of the note with the signature on it.

The jury must answer the proposition by taking all these facts which have so come to their knowledge and applying to them the rules drawn from their common experience. Thus they will say; H is a brother of B's, X is a stranger to A. It is well known that a man's brother is more likely to lie for him than a stranger, therefore H is more likely to be lying than X and therefore H did not see A forge the note. Again F is a young man who was near A at the time, Y is somewhat deaf and stood further away; a young man near by is more likely to hear truly than a deaf one, *ergo* F heard truly what A said. So as between E and Z they will say, the mere fact of possessing a note is not in the general order of things much evidence that you signed it; at least where you deny you did. Lastly, they will say where one is heard to admit he forged a note and where the supposed maker denies that he signed it, common experience tells us it was made by the one who admits it; this is the fact with A, *ergo,* A forged it.

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[*] I do not think it of importance here to attempt any absolute discrimination between fact and opinion. The distinction is in practice perfectly well observed and it can serve no good purpose to deal with it at length. A comparatively slight acquaintance with formal metaphysics is enough to assure us that the apparently simplest "fact" is indeed a conclusion, involving in its affirmation an inference from certain impressions of the sense upon the assumption of a major premise, itself the creature of a past experience. At the risk of an irrelevant digression, I may say that in practice it appears to me we actually distinguish between so-called fact and opinion by merely a practical consideration, *i e.*, whether the inference is one which is within the fair range of dispute, or whether, given the impressions of sense, the inference from them is so self-evident as to make any attempt to question it frivolous. I call to witness here the common experience of every lawyer as to with how increasing rapidity one's questions approach the realm of "opinions" and "conclusions" as he approaches the issue in dispute.

[†] Strictly A's position is of course that B has not proved his proposition; this qualification we may disregard.

In short, the major premise, i. e., that which consists of the general rule, the jury supply from their common knowledge; the minor premise, i. e., that which supplies the particular instance whose predicate is the subject of the major, the witnesses or other evidence furnish.

Now the trouble with the expert is that he takes the jury's place and contributes the major premise. For example, suppose the issue is the same as before, but B brings on M as handwriting expert who says that whenever in two handwritings you find that the angle of inclination to the line is precisely the same, you may depend upon it, the same man wrote both. A puts on R, a physician, who says that no man who has alcoholic tremor can hold a pen to write with, and that whoever has certain symptoms already in evidence as those of A, has alcoholic tremor.

What should the jury do? Having no experience in the measurement of angles in handwritings and, as we may hope, no extended experience in alcoholic tremor and its effects and symptoms, they should take those generalizations into the stock of major premises which they apply to the facts, and using them, say whether A wrote the note or did not. Thus if they believe M, then after measuring the angles in the note and in, say, the signature to the verification of the pleadings, if the angles are alike, they would conclude that the same hand wrote both; the angles are alike, *ergo* the same hand wrote both. Or, with such symptoms A could not even hold a pen, he had such symptoms, *ergo* he could not hold a pen, much less write.

Now the important thing and the only important thing to notice is that the expert has taken the jury's place if they believe him.* It is of course not necessary for the jury to accept the expert's opinion, but were it not really of possible weight with them, it would not be relevant, and if of possible weight, it is only because

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*It can hardly be necessary to say that as to the credibility of any witness there always must remain a question for the jury alone. They have to determine in each case the fractional co-ëfficient of verity, to borrow from mechanics, and multiply the statements made before them by that fraction, before they can judge. Moreover in getting the personal equation of each witness, they shall use common sense or the general inferences of men under the circumstances, and will not be helped by any expert knowledge, at least only in rare cases, *e. g.*, insanity or the malingering of insanity.

it furnishes to them general propositions which it is ordinarily their function and theirs only to furnish to the conclusion which constitutes the verdict.

So much therefore for the anomalous position of the expert witness. Whether it works any practical evil or not is a very different matter. There can be, in my opinion, no legal anomaly which does not work evil, because forming an illogical precedent, it becomes the mother of other anomalies and breeds chaos in theory and finally litigation. No doubt in our law under the supposed garb of equity and justice much is constantly done no less anomalous, and I confess that to say of a thing in our law to-day that it is an anomaly is unfortunately to give it hardly any stigma, it a supposed immediate advantage is to be found from its existence. That the present position is not satisfactory to anyone will I believe be admitted. True it is that some are found hardy enough to support it,* but there are not many, and the criticism comes with great unanimity. I shall therefore try to point out the practical defects, as I believe necessarily inherent in the present system, hoping thereby to obtain a readier hearing than for any purely legal or logical difficulties.

The serious objections are, first, that the expert becomes a hired champion of one side, second, that he is the subject of examination and cross-examination and of contradiction by other experts.

Enough has been said elsewhere as to the natural bias of one called in such matters to represent a single side and liberally paid to defend it. Human nature is too weak for that; I can only appeal to my learned brethren of the long robe to answer candidly how often they look impartially at the law of a case they have become thoroughly interested in, and what kind of experts they think they would make, as to foreign law, in their own cases.

The main difficulty, the fatal difficulty, is, however, still further to seek and lies in the logical fulfillment of the expert's position, as witness and not as adviser of the jury. The result is that the ordinary means successful to aid the jury in getting at the facts, aid instead of that in confusing them.

In the trial of an action or suit each party produces his witnesses and brings out from each witness certain facts the witness has observed. So far so good. The jury is in possession of any number of facts you will, all supposedly relevant to the inquiry.

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*See William L. Foster, 11 Harv. L. Rev. p. 169.

Cross-examination can be effective only in two ways; to bring out new facts, which does not change the function of the witness, or to contradict the witness's direct examination, which is itself no more than bringing out new facts which have inferential value in the final determination. Likewise when one witness contradicts another, the jury is still only getting new facts, new minor premises to be brought to test under the generalizations of common experience. In short all the methods of producing proof are simply directed to presenting all the diversified facts which can in any wise be relevant.

When an expert is on the stand what are the methods resorted to? Quite the same as when it is a witness. He is first examined in chief by the side which calls him. Assuming he has no direct evidence of facts to give, he must be plied with hypothetical questions, at as great length and in as great detail as seems necessary.* The object here is necessarily to supply such general propositions as shall be relevant to the issue; e. g., whether under such and such a state of facts, the result favorable to one side or the other will usually or necessarily follow.

Assume that the expert has testified to a certain number of propositions expressing such general truths; he is then handed over to the opposite side for cross-examination. There are two and only two possible efforts which the cross-examiner will make. First, he may seek to bring out other general propositions favorable to his contention; second, he may seek to shake the validity of those already testified to. Similarly when it comes the turn of the opposite side to submit evidence, it has the same two possible objects, to introduce evidence showing the invalidity of what the opposite experts have said, or to bring out other general truths favorable to them.

The trouble with all this is that it is setting the jury to decide, where doctors disagree. The whole object of the expert is to tell the jury, not facts, as we have seen, but general truths derived from his specialized experience. But how can the jury judge between two statements each founded upon an experience confessedly foreign in kind to their own. It is just because they are incompetent for such a task that the expert is necessary at all. Even where two supposititious propositions are not in direct conflict, the real reconciling grace which may lurk between them is not bestowed, save upon one familiar with the whole line of experience to which they belong; and when the conflict is direct and open, the absurdity of our present system is too apparent perhaps even for the foster-mother of absurdities, our admirable common law. The truth of either combatting proposition lies just in its validity as an inference from a vast mass of experience, not usually in any great degree that of the witness, certainly in no part that of the jury, as to the truth of which trained powers of observation are quite essential, the result themselves of a life of technical training. What hope have the jury, or any other layman, of a rational decision between two such conflicting statements each based upon such experience. If you would get at the truth in such cases, it must be through some one competent to decide.*

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*May I not say a word here for the much abused hypothetical question? As a mode of literature it is, no doubt, not to be commended, but I confess it seems to me sometimes by no means so bad a method of ascertaining the truth as physicians and other experts insist. The necessity which they constantly, I might almost say persistently, disregard, is of the constitutional function of the jury as the final arbiters of the fact Used as they are to make investigations untrammelled by legal machinery, experts naturally find much annoyance in giving out their conclusions piece-meal and as answers to questions of monstrous length and complication. Yet there can be not tht slightest question that except in so far as as their conclusions are based on the face proved they are improper, and that the only way of ascertaining upon what facts they are basing their judgment, is to lay before them in detail what are those assumed facts. To permit them to give a general opinion is no less that to make them judges not only of the matters in which they are skilled as general propositions, but of the truth of the facts to which these propositions are applicable, as to which they are in its sense more competent to decide than laymen. I have personally, however, found on altogether impossible to convince many gentlemen of this very obvious necessity.

This seems to me so entirely the source of the evil in the present system that I shall, even at the expense of some repetition, try to set it out more fully. We have seen that the expert is necessary and logical only to supply to the jury certain propositions of general applicability, or laws of nature, which are not the heritage of the ordinary man whom the jury, like the Greek chorus, heroically shadow forth. Knowledge of such general laws can be acquired only from a specialized experience such as the ordinary man does not possess, which must be either the experience of the expert directly or mediately from the experiments of other investigators. Therefore the validity of such laws or propositions can be tested, just as they themselves at the outset can be acquired, only by such as have possession of the specialized experience to which they relate either directly or mediately. The jury by hypothesis have no such experience directly, it being of a kind not possessed by ordinary men, and they cannot get it mediately, because the real acquisition of such experience involves a whole course of reading and practical experiment in the matter in hand, even to understand the terms or the methods of reaching conclusions. Therefore when any conflict between really contradictory propositions arises, or any reconciliation between seemingly contradictory propositions is necessary, the jury is not a competent tribunal. Moreover, there can be no competent tribunal, except one composed of those who have possessed themselves of the specialized experience and the trained powers of observation necessary to bring to a valid test the truth of the various propositions offered.

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*I hasten here to add that this does not, as it may here seem to imply, involve any infringement upon that "palladium of our liberties," trial by jury No such change would be possible to-day. Trial by jury, like universal suffrage, has come to stay, whether we like it or not; we shall be fortunate to retain the of right a judge to decide the facts in equity cases. I shall try later to show how what is suggested in the text may not infringe upon trial by jury.

What is it then that the jury need? A deliverance to them by some assisting judicial body of those general truths, applicable to the issue, which they may treat as final and decisive. Theirs is not, and in the nature of things cannot be, the function to decide between two sets of such truths; they want that general rule on which they can rely, and that given, they can use it as they use other rules of inference.*

One thing is certain they will do no better with the so-called testimony of experts than without, except where it is unanimous. If the jury must decide between such they are as badly off as if they had none to help. The present system in the vast majority of cases—there being some dispute upon almost all subjects of human inquiry—is a practical closing of the doors of justice upon the use of specialized and scientific knowledge.

It is obvious that my path has led to a board of experts or a single expert, not called by either side who shall advise the jury of the general propositions applicable to the case which lie within his province. The constitution of such an advisory tribunal is a matter which I shall not here discuss, as it is a question to be worked out very possibly in different ways at different places and times. But a few things it seems to me can be said.

First, to this tribunal would be transferred the present so-called expert evidence. Either side might call all the experts that money could procure or diligence discover and put hypothetical questions for them to answer, till the end of time. The sacred right of cross-examination and the right to

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*I would again call to mind the case of Alsop v. Bowtrell, Cro. Jac. 541, where the court learned the fact of the physicians and having satisfied *themselves* of its truth, told the jury that they might so find it. Truly we have not in all respects advanced in two hundred and eighty years.

confuse and browbeat the witness would be vouchsafed gladly and without stint. Only the difference would be that the final statement of what was true would be from the assisting tribunal.

One thing further, how of constitutionality? Would it be constitutional to substitute such an advisory tribunal for the jury? Two methods could be used, one to make its deliverances like findings of fact and decisive, to be taken *ex cathedra* by the jury as the judge's charge is to be taken; the other, to leave to the august assemblage of our peers the sacred right of knocking their heads against the facts if they chose, and to regard the deliverances merely as "evidence" for them to "consider." I should certainly hesitate to call the first method constitutional, and at all events feel sure that the second is *safer,* undesirable though it be. Whether we like or not, our constitutions have the effect of perpetuating the institutions of the end of the eighteenth century in much detail, and while the question is one about which no one would wish to speak with certainty, it would seem that where the jury had always had the function of deciding upon the whole issue, including whatever general propositions it implied and whatever specialized experience it might take, it might well be an abridgment of the institution to take from them the ultimate decision in so far as such specialized knowledge was necessary to a conclusion.

But though the second of the two methods above mentioned seems the only one certainly constitutional, and though it is in addition much the less desirable, there is by the happy genius of our English institutions a way of dodging a difficulty we have not the power to face. Because, though the deliverance of the tribunal of experts might well be subject to be overruled by the jury, it could only be so overruled where a reasonable man acting reasonably and with regard only to such part of the evidence as he should regard and such law as the judge gives him, could reasonably have come to the result reached. In other words, as is well known, the jury can decide only to the extent of the reasonable field of dispute and if they have obviously reached a result not fairly within that field, their verdict is "against the evidence," and cannot stand. Now I fancy that were the decisions of the supposititious tribunal only "evidence for the jury to consider," it would none the less be such kind of evidence as would destroy any practical field of dispute regarding the propositions laid down. Whatever witnesses might be called by either side and however divergent their testimony *inter se*, when the tribunal had once spoken, I much suspect the court would find no reasonable man could doubt but that it was thence came the truth and that the jury must act accordingly.

But even if this be not true, and even if the court should refuse in this indirect way to take the matters into its own hands, much would have been gained. One has only to notice the scrupulous impartiality as to giving any opinion on the facts that our American judges observe, and the immense power of the English bench — which freely expresses an opinion on the facts,—in influencing verdicts, to realize how great is the effect upon the jury, confused by the arguments of the two contestants, of some really impartial expression of an opinion upon which they can rely. Particularly would this be true when it came from one who did know, about something of which they did not know. Then though they *might* refuse the "evidence," in fact, they would not do so, except where passion and bias were the basis of their verdict, cases which the courts can usually control by granting new trials.

Therefore it would seem that even without a change in our constitutions and without any aid from the judges there could be accomplished much of what is really necessary for the effective use of expert knowledge.

It is obvious that much detail must be carefully considered, in particular, just in what cases it shall be necessary to institute such an advisory tribunal. For example, the case of value is one where it might be held wiser to retain the present practice, though value is a conclusion from specialized experience. Such matters it would seem could most wisely be left to the courts to decide in each case. The rulings of individual judges would soon form a line of precedents which would much better establish the most practical line of division than could be done by any degree of detail in legislative enactment. So also of the questions of practice which would arise, as to the form of the deliverances of the expert to the jury, whether like the judge's charge or in other form, and other incidental points of practice. Unfortunately such matters would probably be regulated by statute, did anything of the kind here suggested ever succeed in becoming law; because to-day we have apparently forgotten that it is to the judge one should look for rules to regulate how judges and attorneys should act, not to the legislature.

CEREBRO-SPINAL FEVER.*

By F. B. MAYNARD, M. D.,
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Cerebro-spinal fever, or cerebro-spinal meningitis, as a distinct entity, is much less prevalent than most of the contagious or infectious diseases, yet it may be considered to be endemic in the United States, for no year now passes without a greater or less number of deaths from this cause being reported, especially in the larger cities. I trust, therefore, that a review of the subject may be of some interest.

Cerebro-spinal fever did not exist, or was not recognized, until the beginning of the nineteenth century, during the first half of which there is record of various epidemics, both in this country and in Europe. At about 1860 it had become established in America so that each year brought reports of the disease in some of our cities, and it would seem that the number of cases has increased more rapidly in proportion than has the population. In 1872 a severe epidemic occurred in New York city, a year or two later it visited this part of the state, and New England in 1893. It is impossible to say to just what extent the malady is prevalent in this locality as cases of it are not reported to the health authorities, yet in the city of Rochester for the last four years an annual average of eighty-eight deaths due to "meningitis," as indifferently classified, is recorded.

Nothing has been adduced in recent years to revise the belief that it is practically a non-contagious disease. A few cases are recorded in the literature of the subject where the diesase seemed to have been communicated from one person to another, but the common history even in epidemics is that of only one member of a family being attacked while, on the other hand, it may be breaking out in households separated by long distances and holding no communication whatever with each other. J. L. Smith states that in one case only in his own practice did the facts point to contagiousness. He further says: "An interesting fact in regard to these many epidemics on both continents is that they have occurred in isolated localities, far apart and without the least evidence of transportation. Cerebro-spinal fever resembles in this respect the diseases due to marsh miasm."

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*Read at the annual meeting of the Monroe County Medical Society, held at Rochester, N. Y., May 29, 1900.

Monk (*British Medical Journal*, July 30, 1892,) reports an epidemic which affected children only. The origin was traced to a village school where a number of the children had been affected by diarrhoea a few weeks previously. Disinfection and closing of the school temporarily caused a cessation of the epidemic.

Meriwether (*North Carolina Medical Journal*, July 7, 1888,) reports an epidemic of meningitis that prevailed in North Carolina during the early part of the year 1888. He says that, "not one of ninety-nine cases of which notes were taken lived on high, well drained ground. Nearly all the cases occurred in families using well water." In only ten per cent. of the cases could the sanitary condition of the dwellings be classed as good.

Class (*Medical News*, December, 1898,) puts cerebro-spinal meningitis in the same category with phthisis pulmonalis, and says that, "unsanitary conditions afford the proper nidus for the growth of the germ of this disease."

While, therefore, isolation of the patient is quite unnecessary, yet it seems to me advisable that this disease be added to the list of those to be reported to local boards of health in order that we may be kept informed of the degree of its prevalence, and that we may know more of its geographical distribution in the city or town. In this way the attention of the health authorities would be called to its predominance in a certain locality, if such a condition should become apparent, and a more careful inquiry into the conditions there causing it or favoring its propagation would result. We might thus gain some valuable information as to its etiology, and something might be done toward its prevention.

This disease occurs oftener among children than among adults. J. L. Smith states that three-fourths of the cases in his practice were under ten years of age. The majority of cases occur during the winter and spring months.

In 1887 Weichselbaum described a diplococcus which he had found in the meningeal pus of six cases of acute cerebro-spinal fever, but he was unable to reproduce the disease in animals. Jaeger, in 1895, obtained similar results from his investigations.

Councilman has studied the disease carefully during recent years in New England and in 1898 (*Medical Record*, April, 1898, and *Report to State Board of Health*, 1898,) described a micrococcus, very like the gonococcus in appearance, which now seems to be the specific cause of the disease, although Connor and others have failed to find it in every case examined, and in others have found it in conjunction with the pneumococcus. Councilman describes it as an organism—designated as the "diplococcus intracellularis"—of about the size of the ordinary pathogenic micrococci, appearing in diplococcus form as two hemishperes separated by an unstained interval. It takes the ordinary stains but is decolorized by Gram's method, and is thus differentiated from the diplococcus lanceolatus of Fraenkel.

Kiefer had already, in 1896 (*Berliner klinische Wochenschrift*, November 28, 1896,) described the same organism and stated that although it was impossible to produce cerebro-spinal meningitis in guinea pigs by inoculation, yet while carrying on the observations "the operator had rhinitis with marked depression, headache, nervousness and a drawing pain in the neck. The pus from the nose showed cocci similar to those in the cultures and these soon overcame the other bacteria in the nose, appearing in almost pure culture."

Sears (*Boston Medical and Surgical Journal*, August 8, 1888,) called attention to the frequency of pharyngitis during epidemics of cerebro-spinal meningitis, and Wolf (*Berliner klinische Wochenschrift*, March 8, 1897,) believes that one of the most frequent modes of infection is from the micro-organism's gaining access through the naso-pharynx to the Eustachian tube, to the middle ear and thence into the cranial cavity.

The exact path of infection is still problematical but the nasal cavity seems to be the most suspected portal.

Stillé aptly called cerebro-spinal meningitis a chameleon-like disease. Its onset may be gradual, although it is usually sudden, and, it has been oberved, rarely begins in the early morning after a quiet night's sleep, beginning, rather, in the afternoon or evening hours. Commonly it is ushered in with vomiting, headache and rigor. Instead of the chill, convulsions, more or less severe, followed by stupor, may occur in children. Neuralgic pains, shifting from one part to another, supervene. Among early symptoms are those in which the eye is concerned—dilatation, or inequality, or, more rarely, contraction of the pupils, with reaction to light sluggish or absent. Nystagmus is sometimes present; photophobia is almost constant, as is also strabismus.

Vomiting—frequently an initial sign—is usually reported to be projectile in character, but Connor (a paper read before the New York Neurological Society, January 3, 1889), says that in sixty cases observed in New York hospitals the vomiting was in no case projectile; that it was present at some time in over half the cases. Constipation is very frequently present from the onset. The tongue is usually but slightly furred.

As the disease fastens itself upon the patient the face takes on a fixed expression, indicative of intense suffering. There are spasmodic contractions or convulsive movements of the muscles of the extremities. As the disease progresses the condition of the patient's mind may go through every grade of disturbance from coma to delirium—now he may lie apathetic and indifferent to surroundings, and shortly rouse up and begin a persistent rolling of the head from side to side, moaning piteously and tossing about the bed.

The patient becomes greatly and quite rapidly emaciated. Hyperaesthesia of the surface is a common and important sign, even a light touch eliciting a moaning cry of pain. In no disease with which cerebro-spinal meningitis is apt to be confounded is this symptom so prominent and constant. Muscular contraction is not an initial symptom but in typical cases is constant after the second or third day when we find the patient with head retracted, the back more or less arched and extremities flexed. Kernig has called attention to a sign that is of a good deal of diagnostic value, viz., that with the thigh semiflexed the leg cannot be extended upon the thigh. The abdomen is often retracted, but this is not a constant sign. Paralysis occasionally occurs in one or another set of muscles.

We often see herpes labialis, and the *tache cerebrale* is a common but not important sign as it may occur in other conditions.

In Connor's sixty cases skin manifestations of one kind or another were observed in twenty-five per cent., but hemorrhagic eruption was seen in only five per cent. This latter manifestation, from which the name "spotted fever" was derived, has apparently been much less frequently seen since the epidemic of 1872 than previously.

The temperature runs differently in different cases. Usually there is considerable surface heat, especially of the head, and a fairly high body temperature. In some cases the temperature runs normal or subnormal, in many it fluctuates widely and may be highest in the morning. Pyrexia may subside some days before the nervous symptoms abate.

The pulse varies greatly, although retardation is not common. In typical cases in children we may expect the pulse to be between 130 and 150, and respirations about forty per minute.

The amount and quality of the urine are not far from normal, but we should be on our guard against retention.

Of the special senses sight and hearing are the ones apt to be affected, and one or both of these are not infrequently irretrievably lost. These are the most probable and serious sequelae to be expected.

The mortality ranges, according to various observers, from thirty per cent. to eighty per cent.; with children the death rate is much higher than in adults. It has been well said that there is probably no disease which falsifies the predictions of the physician more frequently than cerebro-spinal fever.

In the treatment of a case we have the proposition before us of a constitutional disease, asthenic and protracted in nature, with characteristic involvement of the meninges of the brain and cord, and a profound disturbance of the whole nervous system. On account of the experiences recorded where blood depletion has been practiced, even early in the disease, it is apparent that the hemogenetic function of the body is in large measure suspended, so that while the use of leeches may temporarily relieve the congestion of the nerve centres the patient loses vital fluid that is not replaced and will probably die of sheer exhaustion before the disease shall have run its course. Depletion is, therefore, to be condemned.

As we are coming to regard more the systemic invasion in these diseases of microbic origin—each characterized by its local lesions—our system of treatment has broadened somewhat. Little has been said in advocacy of the use of cold affusions or the cold pack applied to the whole body. Ice to the head and hot water to the rest of the body has seemed, in view of the cerebral congestion, to be the only rational hydrotherapy. But the remarkable soothing and tonic effect on the nervous system, especially in children, and the increased elimination from the body of the organic poisons following the use of the cold bath in typhoid and other fevers, suggests, by analogy, its use in the disease under consideration. In a case that has been recently under my care—a child four and a half years of age—the cold pack was used with most satisfactory results. One night in the early stage of his sickness I found the boy tossing about the bed and moaning in a most distracting fashion—muscles of the extremities contracted and the face drawn and expressive of great suffering; axillary temperature 104°, pulse rapid and not strong. I had him stripped and placed in a twice folded sheet wet in water as it ran from the faucet, with a rubber bag two-thirds full of water and crushed ice, replaced by another as it grew warm, for a pillow. In less than five minutes the child had subsided into a quiet, natural sleep, which continued for over two hours. This was repeated at intervals depending upon the temperature and nervous condition until the fever abated, and I firmly believe that it did much to carry the child through the most critical stage of the disease and to his ultimate recovery. It would seem, however, that the length of time to continue the use of the cold pack and the occasion for using it require greater discrimination in this than in the other fevers.

Strümpell recognizes the availability of cold baths, and Barr (*British Medical Journal*, November 18, 1899), recommends the ice cap of Leiter's tubing and in case this is not enough to reduce temperature applies cold compresses to the abdomen or runs a small stream of tepid water over the body, the cold to be continued to the head until the temperature is for some time subnormal. J. C. Wilson admits the use of "gentle cold affusions;" this is also recommended by German writers. Osler advocates cold baths when the temperature goes above one hundred and two and one-half degrees, reasoning from the value of hydrotherapy in typhoid fever.

The constipation yields readily to calomel in small, repeated doses.

Potassium bromide is a drug used by J. L. Smith, through a long experience, with great satisfaction. Children, especially, take it well, and there is little danger of bromism as it is rapidly eliminated. Mary Putnam-Jacobi has shown that it causes contraction of the small vessels of the nerve centers and diminishes hyperaemia; it also diminishes in a marked degree the reflex irritability of the cord and is consequently of great service in combatting the extreme nervous excitation. In my case, when the temperature of the patient did not indicate the use of the cold pack, bromide of potassium proved most useful. At one time it was being administered in doses of five grains every two hours.

Iodide of potassium is probably of some value in hastening absorption of the exudate after the acute stage of the disease has passed. The use of morphine is widely and favorably regarded. In the case referred to I administered it on only two occasions, in one-sixteenth grain doses. Alcoholic stimulation is usually well borne and should be used when indicated.

McNabb (*New York Medical Journal*, February 25, 1899,) reports on the use of antistrepticoccus serum in a few cases, and believes that among other points in its favor it prevents purulent infection.

Lumbar puncture has its advocates but is, after all, of diagnostic value only.

Schirmer (*New Yorker medicinische Monatsschrift*, November, 1898), and Dixon (*Journal of the American Medical Association*, May 27, 1899,) report very favorably on the use of Credé's ointment by inunction. It has been shown that the soluble silver is absorbed through the skin, and that in the presence of pyogenic germs and their toxines it enters into some combination and acts as a germicide or antitoxin. Credé himself (*Klinische therapeutische Wochenschrift*, 1898,) says that with children, who absorb it more quickly than adults, twenty to twenty-five minutes of constant friction is required to insure its absorption. This is certainly an objectionable feature of its use in view of the intense hyperaesthesia that attends the disease. But the treatment promises something and is worthy of further investigation.

In the treatment of cerebro-spinal fever, as in so many other diseases, various remedial agents are lauded, but until the value of something new has been more clearly demonstrated, good nursing, easily assimilable nutriment in plenty, a quiet and darkened room for the patient, intelligent hydrotherapy, and the bromide of potassium will be, it seems to me, our mainstays.

PHYSICAL EXERCISES IN THE TREATMENT OF PULMONARY TUBERCULOSIS*

By PARKER MURPHY, M. D.,
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It is estimated that there are seven millions of our people to-day afflicted with one form of tuberculosis or another, and that these seven million patients spend from one hundred and fifty to two hundred millions of dollars a year in medical fees. When we contemplate these figures and by a little further calculation consider that every tenth man, woman and child living in these United States is in the relentless grasp of one of the most dreaded of all diseases, our interest in this disease as medical men should transcend that of all other physical afflictions. That it does, is plainly evident by the countless number of so-called specifics that are advertised in the secular and medical press, which also emphasize the old, established truth, that in proportion as a disease is incurable, so proportionately numerous are the remedies employed. No specific exists to-day for pulmonary tuberculosis and while we look with hope to a future serum product which will accomplish all that was expected from tuberculin, we can in the meantime resort to what has proved to be the most satisfactory of all treatments—prophylaxis. One of these prophylactic measures is the subject of my paper, namely,

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*Read at the meeting of the Medical Association of Central New York, held at Syracuse, N. Y., October 17, 1899.

PHYSICAL EXERCISES.

In discussing the value of physical exercises in the treatment of pulmonary tuberculosis, we must take into account some causative factor other than Koch's bacillus. We may call it diathesis, predisposition, or whatever else we please, but the fact remains there is a non-resisting condition which prepares the human soil for the successful invasion of the bacillus. We may seek for this diathesis, predisposition or susceptibility in pathological conditions of the blood or nervous system, but in our microscopic efforts to discover the true cause, let us not exclude the physical characteristics of the consumptive which are apparent even to the observant eye of the layman. Hippocrates spoke of the form of body peculiar to phthisical subjects as the one with the scapula having the appearance of wings, and Galen also wrote upon this type of chest as specially characteristic of the disease.

While occasionally we meet patients suffering from this disease whose form of body would be a contradiction to these statements, nevertheless the majority of consumptives even in the very earliest manifestations show the "trail of the serpent" by the contracted chest and the corresponding imperfect lung-expansion power.

Darwin states that the lungs in improved herds of cattle, which naturally take little exercise and are domiciled much of the time, are found to be considerably reduced in size when compared with those possessed by animals having perfect liberty. And we know that the vital lung capacity is smallest in persons who lead sedentary lives, such as professional men, students, clerks, etc., and greatest in those who follow out-door occupations, such as sailors, recruits, etc. That the favorite haunts of the disease are among the improved herds and the sedentary class, statistics tell us, and that imperfect lung function as a causative agency is shown in the effects of the contraction of extensive scars upon the chest, resulting from burns and scalds, thus favoring a lodgment of bacilli. Three cases of this sort were reported last year by Dr. Hall of Denver, in which one side of the chest in each case was scalded during infancy and pulmonary disease began on the contracted side. The splendid results of high altitude in the treatment of tuberculosis have not been due to any curative constituent of the atmosphere or any pecularity of temperature, but entirely to decreased barometric pressure upon the external surface, compelling a greater expansion of the chest, opening up a larger surface for the interchange of gases and consequently a greater oxygenation of the blood. It is self-evident then, that the forced distention of the lungs and bronchi in those who live in high altitudes, alone confers immunity against the disease.

There is a man in Rochester to-day, who is the only surviving member of a family of ten. Forty-five years ago he was born in England, the second youngest child, and before he attained the age of fifteen every solitary brother and sister except the youngest had died of consumption. They would all arrive at the age of twenty or twenty-one and then from apparently perfect health pass into the condition of so-called decline. When he was about eighteen he became despondent and joined the English Army, and to that step alone, he attributes his earthly existence to-day. In their setting up exercises they developed his chest so that he had an expansion of six inches, which expansion by systematic exercises he still maintains.

Dr. Tussey of Philadelphia finds in three-fourths of all cases examined with the dry spirometer that the ratio is sixty cubic inches of vital capacity to every inch of expansion, or range of motion which is present; and we know that in nine-tenths of all cases of pulmonary tuberculosis that come under our observation, superficial breathing or diminished thoracic movement is invariably present. It would seem from these facts that the potent influence of counteracting these causative factors should be our aim and effort; for if all bacilli were exterminated and the vicious habits to which we have been accustomed are allowed to go unchecked, there will still be a nucleus for bacillary development. We must go right to the seat of the trouble and destroy the vulture's food before the vulture will die, and as long as people continue converting themselves into food for bacilli the bacilli will continue to increase and multiply. Proper breathing exercises which increase the chest expansion, will lessen the pulse rate, lower the temperature, and stop night sweats. When I make this assertion, I do not include patients in advanced stages of the disease, who are practically unable to take deep respirations.

With your permission I will report two cases that I have observed during the past year.

E. M., female, single, 23, clerk, family history negative, had a cold three months previous to the time I saw her, from which she stated she had not fully recovered. She complained of a hacking cough with scanty morning expectoration, was constantly fatigued, but ate and slept well and had no gastric disturbance. I found her temperature was 99.8 degrees, pulse 90. The physical examination was negative except for diminished vesicular murmur over an area about two inches square in the upper lobe of the right lung anteriorly. Examination of urine and sputum was negative. I prescribed a mixture of creosote, guaiacol, glycerine and alcohol. Seven days later the patient appeared, her temperature was 100 degrees, pulse, 120, but she claimed that her cough and expectoration were lessened. I instructed her to take deep respirations in the office; after doing so I found her pulse was seventy-eight but there was no reduction in temperature. I put the patient on a placebo and instructed her to breathe deeply twenty times every hour for the next three or four days, especially in the open air. At the expiration of that time, when she appeared, her cough and expectoration were unchanged but her temperature was normal and her pulse seventy-five. I have since taught her a number of chest movements with the result of an increase of two inches in chest expansion, disappearance of all symptoms and a gain in weight of seven pounds.

C. S., single, 22, native of Sweden, shoemaker by occupation. One sister and aunt on maternal side died of consumption in old country. The patient's health was always good until about ten weeks before I saw him, when he commenced to feel badly; had no appetite; loss of weight and dyspeptic trouble. He went to a physician who treated him for the last trouble. When I saw him, he had a cough and expectoration.

Physical examination: inspection revealed a flat chest with very slight respiratory movement. Auscultation gave crepitant rales over the upper portion of the right lung anteriorly. There was dullness on percussion. At the third microscopic examination I found bacilli in the sputum, about two to a field. I put patient on one-twentieth of a grain of strychnine sulphate four times a day; instructed him to breathe deeply twenty times an hour during the day and to remain as much in the open air as possible. When the patient appeared a week later, his temperature was normal, and pulse seventy-eight. I then instructed him in some arm and chest movements to supplement his breathing exercises, and also ordered cold sponging and brisk rubbing immediately following. When I saw him last he had resumed his work in the factory and complained of no further trouble.

When fever is present, I do not advise any arm or chest movements. I simply instruct the patients to breathe deeply, and then when fever declines I combine breathing exercises with extension movements, imitating the effects of high altitude by slowly raising the arms to a horizontal position and then over the head until the hands meet, slowly and deeply inspiring while performing the movements and expiring while lowering the arms: thus the supplementary muscles of the chest and shoulders are brought into action, by raising the arms and then carrying them back and down describing a movement of circumduction, and by standing erect and extending the arms in a horizontal position, describing circular movements with hands gradually working backward. As will be seen, the exercises available to produce better respiration are very numerous and varied, but the underlying principle is simple, namely: to bring into more vigorous play the muscles which expand the thorax and at the same time, excite deep, full and free breathing; to bring the vital force of the lung to its maximum. It must be borne in mind that all exercises of the thoracic muscles for the purpose of producing an increase in that cavity must at the same time, be coincident with deep breathing. The amplitude of the respiratory movements must be increased; the lungs must push out from within, as well as the thoracic muscles pull from without. Once having established a proper respiration by the use of some of the simple respiratory exercises and devoting a few minutes to it every day, the habit of full and deep breathing is formed even when one is in a state of repose.

In convalescence from pneumonia and pleurisy with effusion the importance of expanding and revivifying as soon as possible the lung whose nutrition has been depressed can hardly be overestimated; as La Grange truly says "In all the inflammatory maladies of the lungs there persists a tendency to stasis and passive congestion, to correct and obviate which, no means is more efficacious than very ample and deep inspiration." When the border line has been pased and incipient phthisis has been developed, respiratory exercises are a most important and precious means for restoring the weakened lung tissue and increasing its resisting power.

In every well arranged plan of treatment of pulmonary tuberculosis, where any exercise at all is allowable, pulmonary gymnastics carefully arranged and adapted to the strength and condition of the individual should be embraced. In the famous sanitaria abroad, where such excellent results are obtained, they play an important part in the treatment. Aside from the barrel-shaped chest of emphysema, the full round chest is an acknowledged evidence of healthy lungs. A flat, contracted chest is a constant invitation to tubercle bacilli and an evidence of so-called weak lungs. When more vigorous exercises may be recommended without fear of debilitating fatigue, recourse may be had to some one of the mechanical appliances, which are of the greatest utility in many cases. Among the many in the market, I would recommend the McTadden Exerciser, which is simple and inexpensive. I instruct patients to attach it to the casement of a door or a window, so that by opening the latter they may have an abundance of fresh air. I think one of the serious drawbacks to most of the gymnasiums which I have visited is the need of a large, well ventilated apartment so that when the class of thirty or forty men are drilling, the unpleasant odor of a poorly ventilated room will not be detected. Then the spirit of competition is to be condemned, which often in such institutions incites some of the weaker ones to effort and exertion far beyond their physical endurance, and when they leave the building, the pleasant exhilaration following judicious exercise gives place to depression and exhaustion. Much will be accomplished in affording facilities for exercise and recreation when a perfect bicycle handle bar will enable the patient to maintain an erect position with shoulders thrown back and chest expanded. He can control the movements of his wheel without stooping or extending his arms in front of his body.

In conclusion, let us labor incessantly in the advocacy of a more general use of physical training so that the large lung surface necessary to our physically active and vigorous, savage ancestors may not become a redundancy when it is transmitted to our higher civilization, in which everything tends to produce a condition of physical inertia.

Clinical and Pathological Notes

Tubercular Peritonitis in Infancy.—F. S., aged 20 months, male. Family history excellent. Had been peevish for some time before first visit and since April, 1900 has lost considerable flesh.

May 17, 1900. Child had retention of urine and as ordinary means failed the patient was catheterized. Examination of specimen was negative. During the next few days he was catheterized several times. He was also constipated. His temperature was irregular and varied between normal and 100.8 degrees with correspondence in pulse.

Physical Examination. Child's expression is anxious, skin dry, abdomen distended and intensely tympanitic, no ascites determined. In the left posterior thoracic region dullness extends from the upper border of the left kidney to the spine of the scapula reaching to the posterior axillary line. The spleen seemed to be covered by the distended intestine and stomach.

May 11, 1900. Veins of abdomen prominent. There is no longer retention of urine, or constipation.

May 12, 1900. After consultation with Dr. Vander Veer, it was decided to make an exploratory incision. The possibility of sarcoma or tubercular peritionitis was kept in mind. The blood examination, however, made on this day, showed no leucocytosis. Ascites could not be determined at this examination.

May 15, 1900. Exploratory incision in the median line. Tuberculous peritonitis with considerable fluid discovered. Dullness noted above due to the dislocation of spleen. Child did badly and developed bronchitis with temperature frequently reaching 103°.

June 17, 1900. A faecal fistula established itself at the lower angle of the wound, which had closed.

July 4, 1900. The child died. Autopsy by Dr. Elting. Abstract of notes from records of Bender Laboratory. Body of child was greatly emaciated. Intestines and stomach densely adherent to each other and to abdominal wall. Lungs and pleurae studded with miliary tubercles, some conglomerate—no consolidation. Spleen showed similar condition. Fistula is situated in ileum short distance above ileocaecal valve. Visceral peritoneum studded with numerous miliary and conglomerate tubercles. Peyer's patches of small intestines were irregularly and superficially ulcerated; one of these had ulcerated deeply, producing the fistula. Liver was adherent to diaphragm and pylorus. Its under surface was necrotic and was covered by a yellow fibrous deposit studded with numerous miliary and conglomerate tubercles. On section tubercles were seen.

WILLIAM H. HAPPEL, M. D.

Editorial

The Mosquito and Malaria

No more interesting fact in the etiology of disease has been discovered than the part the mosquito plays in the transmission of malaria. It has stimulated the study of this disease, which seemed to have ceased after the discovery of the different forms of the plasmodium, and has aroused such scientific enthusiasm as to bring to its investigation many distinguished workers and to make the consideration of tropical diseases of the highest importance.

Many novel experiments have been made in medicine but none more so than the two suggested and carried out by Manson who first conceived the relation of the mosquito to this disease. One consisted in having mosquitoes, which had fed on a malarial patient in Italy, brought to London and placed so as to bite a healthy individual free from malaria and thus to develope in this subject malarial fever.

The other, which was the complement, sought to keep Europeans, who had never had malaria, free from malaria in an intensely malarial region, where all the inhabitants and visitors suffered from malaria, simply by avoiding the bite of the mosquito. For the first experiment Manson used his son who after being bitten by infected mosquitoes had chills, fever as high as 103.6° and sweats. The spleen was palpable on deep inspiration and many tertian parasites were found in the blood.

The other experiment took place in the Roman Campagna near the mouth of the Tiber in a wooden hut constructed in England. The only protection for the inmates was mosquito netting, wire screens in doors and windows and netting about their beds. They went about the country freely in the daytime avoiding the anopheles quadrimaculatus and remained in their hut from sunset to sunrise as this species of mosquito which is the carrier of the malarial parasite bites only at this time. During the four months of their stay in this intensely malarial region the experimenters, five in number, enjoyed perfect health and had no sign of malaria. The experiments prove that a distinct species of the mosquito, the anopheles, is the carrier of the malarial parasite from man to man and that with care malaria, even where it is most prevalent, may be avoided. This discovery is likely to prove of incalculable benefit not only medically but also politically. The next century will probably see darkest Africa a thing of the past and malaria a medical curiosity.

The Typhoid Bacillus and Drinking Water

At this time of the year when typhoid fever is at one of its two periods of increase many questions of interest arise regarding the disease. One of them, regarding which, the laity and even the general run of the profession seem to be somewhat confused, is the question of the isolation of the typhoid bacillus from drinking water. Apparently many hold the view that to the skilled bacteriologist the matter is a simple one. This is far from being the case. The suspected water is not submitted for examination until the outbreak of typhoid fever is well under way, whilst the infection of the cases occurred three weeks previously, allowing this time for the average period of incubation. The amount of water examined is of necessity small, so that the bacilli, which are not evenly distributed through it but are present in groups or clumps, can easily be missed even if several samples are taken. Finally the typhoid bacillus is necessarily always associated with the colon bacillus which rapidly outgrows and destroys it. As the result of these factors it is almost an impossibility to isolate the typhoid bacillus from water, and the presence or absence of the colon bacillus is usually regarded as the index of fecal contamination.

In Memoriam

WILLIAM J. WOODRUFF, M. D.

Dr. William Jessup Woodruff died in Providence, Rhode Island, on July 29th, 1900. The news of Dr. Woodruff's death caused much sorrow among the many friends he had made in this vicinity. He was a man of sterling qualities and greatly esteemed by all with whom he came in contact. Dr. Woodruff was born in Pine Bush, Orange County, N. Y., on February 22nd, 1870. He received his early education at that place and entered upon his medical studies at the Bellevue Hospital College. He remained there one year and entered the Albany Medical College in the fall of 1893. He graduated with the class of 1894 and won the Vander Poel prize for the best bedside examination and an appointment as house physician and surgeon in the Albany Hospital. While there his service was most zealously and faithfully performed and he left for Providence in October, 1896, with the best wishes of every member of the Hospital Staff. In Providence he succeeded in building up an extensive practice and was considered one of the most promising and popular of the younger physicians.

Death came as the result of heart disease. Last November he was obliged to give up his practice on account of ill health. He returned to Providence in February and resumed his work. For three weeks prior to his death he failed very rapidly and the end was not unexpected.

His father was president of the Albany Medical College Alumni Association in 1894 and died November 30, 1896. Dr. Woodruff is survived by his brother, Dr. Richard Woodruff, of the class of 1886, and by his mother and two sisters.

Medical News

Edited by H. Judson Lipes, M. D.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—The semi-annual meeting was held October 9, 1900, in Alumni Hall. The meeting was called to order at 8:50 p. m., the President, Dr. Wm. Hailes, in the chair. The following members were present: Drs. Applebee, Blumer, Case, Craig, Curtis, George, W. H., Hailes, Happel, Hun, Lipes, MacFarlane, MacHarg, Mereness, Moore, C. H., Morrow, Munson, Ryan, Sabin, Stillman, Traver, Vander Veer, E. A., Van Rensselaer, Ward, Wiltse.

1. Reading of the minutes of the last meeting. It was moved by Dr. WARD that as the minutes had been published they should be adopted as printed. The motion was seconded and carried.

2. No reports of special meetings.

3. Censors' report. Dr. STILLMAN, in reporting for the censors, recommended the following names for membership: Dr. F. N. Guyer, Dr. E. E. Hinman, Dr. J. A. Lanahan. He stated that no other business had been before the Censors.

4. Election of members. Dr. Mereness moved that the Secretary be instructed to cast one ballot for the physicians passed upon by the Censors. The motion was seconded and carried and Drs. Guyer, Hinman and Lanahan were declared elected to membership.

5. Under the head of motions and resolutions and miscellaneous business no matter for discussion came up.

6. The Vice-President, Dr. Martin MacHarg, then read his address, "The Albany Filtration Plant and its Effect on the Occurrence of Typhoid Fever in Albany."

The President declared Dr. MacHarg's paper open to discussion.

Dr. Stillman said that he would like to ask Dr. MacHarg just what portions of the city were receiving the different water supplies. (Dr. MacHarg here exhibited a map showing the water distribution.) He also asked if there was more typhoid fever in the districts in which the water was wholly or partly filtered.

Dr. Craig stated that the most of typhoid fever was in the district supplied by filtered water. He was sorry to miss the first part of Dr. MacHarg's paper. He thought that no one could fail to see the beneficial effects of the filtration plant in certain ways. The plant was becoming famous. Several other cities had sent experts to examine it, and some, as for example Pittsburg, were putting in similar plants. Dr. Craig called attention to the fact that as Dr. MacHarg's paper stated, there had been a great decrease in typhoid cases from the installation of the plant to August 1, 1900, then an increase of cases began, so that in August fifteen cases were reported; in September thirty-five cases, and so far in October six cases; in all fifty-six cases in a little over two months. On January 1, when he went into office as Health Officer, it was hard to get more then the bare facts regarding infectious diseases. Since that time he had started a collective investigation by means of inspectors and investigated in every case of typhoid the questions of water, milk and ice supply, absence from the city previous to the disease, and the sanitary surroundings. He has been able to get complete returns of forty-seven out of the fifty-six cases. Of these forty-seven, seven were clearly imported cases (Asbury Park, Troy, etc.,) and one was clearly due to well water. All but four used the city water supply and of these four, three used "Great Bear Spring Water," and one used "Shell Rock Spring Water." Seven cases were found to be along the route of one milkman who supplied about one hundred people. Two cases used ice from an ice house with decidedly unsanitary surroundings. He had investigated the milk supply of the milkman who had the seven cases on his route and had found evidence suggestive of contamination.

The milkman washed his cans in a little running stream near his house. A short distance above his house was a farm house, and the privy of this farm house was very near the stream. There had recently been typhoid cases in this farm house. Many of the cases of typhoid were in the West End of the city, although there was no large number confined to any one district.

Dr. LIPES stated the fact that he had in his practice four cases of typhoid in motormen on the electric cars between Albany and Troy. All of them had drunk water from a well at Menands which was said to be a constant source of typhoid.

Dr. MORROW enquired regarding the quality of the gravity supply from Rensselaer Lake.

Dr. WARD, in discussing the Rensselaer Lake supply, stated that he had seen six or seven cases of typhoid on the Sand Plains in the last few years. Several years ago nearly all the wells in the Sand Plains were infected. On this account he was inclined to regard the Rensselaer Lake supply with suspicion.

Dr. STILLMAN referred to Dr. McHarg's statement that after freshets the bacterial count in the filtered water was increased. He spoke of eight cases of typhoid which he had seen in the last six weeks. Of these eight cases five had not been out of the city at all this summer. All were in the filtered water district. He thought that the explanation that many cases at this time of year were imported, did not account for his cases. He also regarded the suspicion of contaminated milk as inadequate. He stated that it had been noted in former years that when epidemics of typhoid were present in Troy, we had epidemics here. He thought it due to the greater amount of typhoid sewage present in the water in the river. Reasoning from his own cases, he did not see what logical conclusions he could come to, except that the filter plant was inadequate.

Dr. HAILES asked Dr. Blumer if he know of anything new regarding the possibility of the water-borne typhoid or relating to the domiciliary surroundings?

Dr. BLUMER answered Dr. Hailes' questions in the negative. He thought that there were several points in connection with the subject which were important. The unfiltered water was not drawn from the main channel of the river but from what was known as the back channel. This was separated from the main channel above by an island and a levee, but communicated with it several hundred yards below. There was a certain amount of back flow from the main to back channel due to the tidal conditions, but he did not think there was much actual admixture at the intake. This latter view was supported by the fact that the scum from the gas works, which empties nearly opposite the junction of the main and back channels, seldom appeared except in very small quantities at the intake. Another point of importance was that many business men who lived in the filtered water districts, had their places of business in the mixed water districts. He thought that an ideal condition, as regards typhoid, would not be reached until the sewage system, as well as the water system, was put into first-rate condition. This was shown by the Munich experience, where a pure water supply produced a great drop in the typhoid incidence, but where a further marked drop occurred later when the cesspool system was done away with and a good sewage system established in its place. He thought there was room for investigation of the ice supply in connection with typhoid. Another point to be taken into consideration was individual susceptibility. Even with a count of only fifty bacteria to the cubic centimeter, some of these were probably typhoid bacilli and a very few such might set up the disease in very susceptible individuals. He thought that the efficiency of the filters would increase as the first winter was always the worst with sand filters. This was due to the fact that the nitrifying algae had not yet grown much in the deeper layers of the sand.

Dr. WARD spoke of the contamination of the water by the material left over in the pipes and asked regarding the bacterial count in hydrant water. He spoke of the experience of Schenectady with typhoid fever. This city when using Mohawk water was notorious for typhoid fever. Two or three years ago they had changed their supply and filtered their water by a filtering gallery. The cases dropped from sixty and eighty a year to two a year. On one occasion last winter, on account of a break in their pipe line, they had to use the old Mohawk supply for a few days. Following this they had thirty-two cases of typhoid fever. In connection with the Schenectady observation he could not see the force of the argument that the sewer system had much to do with the disease.

Dr. CURTIS referred to the fact that the type of epidemic produced by contaminated river water was the winter epidemic. The type in Albany seemed to have changed from the winter to the autumn type. He thought there was no doubt that a great deal of the ice was polluted. He spoke of an epidemic in the Syracuse Institution for Feeble-Minded Children which bore upon this point. A good many years ago this institution, and another for women, had the same water supply. There was much typhoid in both institutions. Then the institution for women installed filtration and their typhoid stopped, whilst the disease continued in the children's institution. The Institution for Feeble-Minded Children changed its supply and the typhoid disappeared there also. This year an epidemic appeared and it was found that ice was being taken from on old reservoir containing the old water supply. This ice was not used for domestic purposes, but the children were in the habit of following the ice wagon, picking up and sucking pieces of the ice. A suppression of this custom caused a cessation of the typhoid. He thought that perhaps the Albany water was filtered too rapidly and hoped that the efficiency of the filters would increase with age. He recalled that he had read a paper before the Society as early as 1876 blaming polluted river water for the typhoid outbreaks, He cautioned against expecting two much from filtration, inasmuch as the average death rate from typhoid in large cities, even with a good water supply, was about twenty-five deaths per 100,000 population yearly. He thought that typhoid would always exist, even with the most vigorous disinfection of excreta, as the bacilli probably could live in the soil, and especially in the country could pollute wells. Dr. Curtis then presented the following statistics bearing on typhoid in this State, in cities over 20,000 inhabitants. The figures represented the statistics for the last ten years in deaths per 100,000 inhabitants.

City	Deaths	Water Supply
New York	23	———
Brooklyn	23	———
Yonkers	20	Pure spring water
Albany	86	Hudson River
Cohoes	83	Mohawk River
Troy	60	Mohawk River (Above State dam)
Kingston	17	Filtered water (From small streams)
Poughkeepsie	39	Hudson filtered (Old filter)
Newburgh	26	Creek water
Watertown	78	Black river
Schenectady	160	Mohawk
Amsterdam	45	Local wells
Utica	20	Small impounded streams
Binghamton	45	Susquehanna
Elmira	48	Chemung creek
Syracuse	40	Onondaga Lake
Auburn	21	Owasco Lake (Fed by springs)
Buffalo	35	Niagara River (Occasionally Lake Erie
Rochester	26	Hemlock Lake
Oswego		Oswego River Filtered (one-quarter of the population use well) water,

It is to be noted in regard to Elmira, that in 1896 there was a bad outbreak, which was directly traced to pollution from a typhoid case above the intake. Syracuse now takes its water from Skaneateles Lake, and for the last few years has had thirty deaths per 100,000. Dr. Curtis thought that these statistics emphasized the statement of Bryce that "the incidence of typhoid fever is the index of the purity of a city's water supply."

Dr. MACHARG, in closing the discussion, stated that he had four cases of typhoid, all supplied by the same milkman. (These were four of the seven cases referred to by Dr. Craig).

Dr. MERENESS asked regarding typhoid incidence in cities with a lake supply like Chicago.

Dr. CURTIS stated that this depended upon the relation of the intake to the outlet of the sewers.

The President stated that he thought the paper and discussion had brought out the following points:

1. That the efficiency of the Albany filtration plant was first-rate.
2. That the passage of the water through the pipes increased the bacterial count.
3. That an entirely filtered supply should be substituted for the present supply with some mixed water.
4. Minor points were:
   a. The question of milk supply.
   b. The necessity of a good sewage system.
   c. The importance of individual susceptibility.

A movement to adjourn was then made by Dr. MORROW, and was seconded and carried.

UNION UNIVERSITY BOARD OF GOVERNORS.—At the meeting of the Board of Governors of Union University, held in the Library of the Albany Medical College, October 9th, the Hon. Simon W. Rosendale was unamimousley elected president of the board, and Hon. Amasa J. Parker, secretary.

OPENING OF THE SEVENTIETH SESSION OF THE ALBANY MEDICAL COLLEGE.—The introductory lecture of the Seventieth Session of the Albany Medical College was delivered by Professor H. C. Gordinier, M. D., in the amphitheatre of the college, on Tuesday, September 25, 1900, at 12 m. Professor Vander Veer, Dean of the Faculty, presided. Prayer was offered by the Rev. Eliphalet Nott Potter, ex-president of Union University. President A. V. V. Raymond welcomed the students on behalf of the university. Ex-president Potter addressed the students and spoke briefly on the work accomplished since the formation of Union University. Announcements were made by Professor Tucker.

ALBANY COLLEGE OF PHARMACY.—The twentieth course of lectures of the Albany College of Pharmacy was formally opened on the evening of October 1, 1900. President A. V. V. Raymond, of Union University, presided and delivered an address to the students welcoming them back to Albany and the college. The address of the evening was delivered by Dr. Thomas W. Jenkins, of the Faculty, who spoke on "Individuality." Shorter addresses were made by Professor Tucker and others.

THE CHILD'S HOSPITAL STAFF.—At a meeting of the Managers of The Child's Hospital held on October eighth the following medical and surgical staff was appointed: Attending physicians, Dr. T. M. Trego, Dr. Henry Hun, Dr. H. Van Rensselaer, Dr. A. MacFarlane, Dr. H. L. K. Shaw; attending surgeons, Dr. Lewis Balch, Dr. S. R. Morrow, Dr. A. H. Traver, Dr. A. W. Elting, Dr. C. E. Davis; ophthalmic and aural surgeons, Dr. C. S. Merrill, Dr. C. H. Moore; nose and throat department, Dr. Clement Theisen; dermatological department, Dr. F. C. Curtis; pathologist, Dr. George Blumer; dental surgeon, Dr. F. G. Michel.

TRAINING SCHOOL FOR NURSERY MAIDS.—The Managers of The Child's Hospital have started a training school for nursery maids at St. Margaret's House. The course covers eight months, one of which is probationary. The pupils are boarded and lodged at the expense of the House and receive five dollars a month. At the end of eight months diplomas are given to those who pass satisfactory examinations. The schedule of instruction is as follows: (1) Infant feeding: care of milk, milk sterilization, care of bottles, preparation of food with rules as to quantity and frequency; (2) Bathing: daily bath, the use of hot, cold and mustard baths; (3) Hygiene of the skin: care of mouth, eyes, ears and nose; (4) Nursery hygiene: ventilation, temperature, cleanliness, care of napkins, etc.; (5) Training of children in proper bodily habits; (6) Miscellaneous: use of clinical thermometer, making of poultices and oiled silk jackets, giving of enemata; (7) Simple means of treatment in nursery emergencies; (8) The rudiments of kindergarten work.

"HARVEST HOME FESTIVALS" FOR THE HOSPITALS.— During the past few weeks the several churches of this city have held "Harvest Home Festivals" for the benefit of the various hospitals. This humanitarian work is not alone of benefit to the hospitals or their patients but increases the interest in the work in other directions.

THE SEPTEMBER REPORT OF THE ALBANY HEALTH DEPARTMENT.—Dr. Joseph D. Craig, Health Officer of the City of Albany, made the following report for the month ending September 30th, *Plumbing inspections:* Number of permits issued, 106; number of building permits issued, 20; number of plumbing permits issued, 86; number of building and plumbing inspections, 370; number of water tests on new buildings, 8; number of smoke tests on new buildings, 1; number of houses inspected for plumbing, 140. *Sanitary Inspectors'* report: Number of houses fumigated, 46; number of rooms fumigated, 138; number of privy vault notices served, 4; number of notices served to abate filthy yards and defective plumbing, 7; number of re-inspections of filthy yards, and privy vault nuisances, 23; number of inspections of defective plumbing, 16. The *Meat Inspector* reports for the same month, who also of necessity does a portion of the general sanitary inspection of the office: Inspections and re-inspections, 17; notices served, 20; markets inspected, 14; seized and destroyed boleveal, 72 lbs.; cards posted and schools notified (contagious disease), 23; typhoid fever cases investigated, 18. The meat inspector appears on the market each day. The *Registrar of Vital Statistics* reports: births, 94; marriages, 46; deaths, 122. Of these deaths 20 were in persons 70 years of age or over, 23 were in persons of one year or under, and 12 died in hospitals. The deaths from contagious disease are an index in a general way of the health conditions among the people that died from specific disease during the month; from typhoid fever, 4; from diphtheria, 4; from consumption, 14. Deaths from other causes were as follows: apoplexy, 8; cancer, 3; lock jaw, 1; pneumonia, 4; Bright's disease, 16; old age, 3; accident and violence, 10; cholera infantum, 4. A large number of personal inspections in the settlement of disputed cases were made by the health officer in person.

THE AURELIA OSBORN-FOX MEMORIAL HOSPITAL AT ONEONTA.—The corner stone of this memorial hospital—the gift of Reuben L. Fox, of Oneonta—was laid with impressive Masonic ceremonies, Friday, October

5 1900. Mr. M. W. Charles W. Mead, Grand Master of the Grand Lodge of Masons of the State of New York, assisted by his associate grand officers, performed the rite.

THE MEDICAL SOCIETY OF THE MISSOURI VALLEY.— The annual meeting of this Society was held at Council Bluffs, September 20th. The society voted to contribute $25.00 to the Rush Monument Fund, and a resolution was adopted providing for a banquet after each meeting. The following officers were elected: President, Dr. V. L. Treynor, Council Bluffs; first vice-president, Dr. B. B. Davis, Omaha; second vice-president, Dr. F. E. Tompson, Creston; treasurer, Dr. T. B. Lacey, Council Bluffs; secretary, Dr. Chas. Wood Fassett, St. Joseph, Mo. The next meeting will be held at Omaha in March, 1901.

NATIONAL AND STATE MEDICAL SOCIETIES, MEETINGS FOR NOVEMBER AND DECEMBER.— The Southern Surgical and Gynæcological Association, will meet at Atlanta, Ga., November 13–15, under the presidency of Dr. A. M. Cartledge, of Louisville, Kentucky.

The Western Surgical and Gynæcological Association, will meet at Minneapolis, Minn., December 27–28. Secretary, Dr. George H. Simmons, 61 Market street, Chicago; President, Dr. O. Beverly Campbell, of St. Joseph, Mo.

Oklahoma Territory Medical Society meets at Oklahoma City, November 15th.

Indian Territory Medical Association meets at Muscoyee, December 4–5.

THE REVISION OF THE BERTILLON CLASSIFICATION OF THE CAUSES OF DEATH.— The first decennial revision of the Bertillon classification of causes of death, occurred at Paris on August 18 to 20, under the auspices of the International Congress of Hygiene and Demography, as originally proposed by the American Public Health Association. The sessions were presided over by the distinguished Dr. Brouardel, Dean of the Faculty of Medicine of the University of Paris, and contained representatives from many nations. It should be remembered that this classification is not only a classification of causes of death, but is also intended for the classification of causes of disability, and hence has a wider application than that pertaining to mortality statistics alone.

THE PROPOSED SITE FOR THE STATE HOSPITAL FOR CONSUMPTIVES.—The State Hospital trustees, including Howard Townsend, of New York City; Dr. J. H. Pryor, of Buffalo; Frank E. Kendall, of Syracuse; Dr. Willis G. MacDonald, of Albany, and Walter E. Jennings, of New York City, have selected Big Lake Clear for the site of the proposed consumptives' hospital. On October 11, the State Forest Preserve Board and the State Board of Health held a meeting to listen to arguments why the selection of the Lake Clear site should not be approved by them as required by law. The members of these two boards present were: Lieut-Governor Woodruff, State Engineer Bond, Attorney-General Davies, Dr. Daniel H. Lewis and Health Officer Dr. Alva H. Doty, of New York City, and Owen

Cassidy. All the Hospital trustees were present. The proposed site was opposed by the owners of property and camps of that region. Dr. Vander Veer stated that it was unsafe to put too many consumptives in a given area and that there were enough now in and about the Saranac region. The site proposed would cost the State from $10,000 to $12,000. A large delegation from Clinton County claimed that the committee had not accorded the Dannemora site a fair consideration. Dr. Ransom, who has been the prison physician at Clinton prison, Dannemora, for the past twelve years, made the principal argument in favor of this site. He claims that Dannemora is on the dryest slope of the Adirondack range and that the climatic conditions are superior to those of Lake Clear. The percentage of consumptive deaths at Dannemora, where they are sent from the other State prisons, is less than in the Lake Clear and Saranac regions. The Dannemora site would be given to the State and would adjoin land already belonging to the State and is quite remote from the prison. Large stone quarries are near and convicts could furnish the labor. Alfred F. Sims, the United States weather observer, said that a comparison of the atmospheric conditions at Lake Clear and Dannemora was decidedly in favor of the latter. As the two boards could only approve a site selected by the trustees, a resolution was adopted requesting the trustees to make a further investigation of the Dannemora site and compare its climatic and other advantages with those of Big Lake Clear.

THE AUGUST BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.— The 11,047 deaths this month are nearly the average of the past five years, as is the decrease of 600 from the reported mortality of July. The death rate is 18.5 against 19.5 in July. There were 500 fever deaths under the age of five years, the percentage being 38.3 against 40.6 both being lower than the average. The percentage of zymotic deaths was nearly the same as in July 23.7. The decrease in diarrhœal mortality has been less than the average, 1,985 deaths being from this cause or 100 less than in July. Deaths from typhoid fever and malarial diseases have increased, scarlet fever and measles have diminished. The decrease from July has been in local diseases, all of which caused fewer deaths. There were likewise fewer deaths from accidents and violence; 777 against a monthly average for the year of 528. Of 275 deaths from violence outside of New York City 80 were from drowning (nearly 30 per cent.), 5 from lightning stroke, 12 from sun stroke; of the rest 41 were from railroad (15 per cent.), 2 electric car, 3 wagon accidents, 3 electric shock, 9 poisoning, 10 burning, 15 suicide, 1 execution.

Of all deaths, 8,200 occurred in cities and villages of over 10,000 population and 2,850 in the rest of the State. The urban death rate was 18.3 against 20.5 in July; the rural death rate on the other hand is increased being 15.0 against 13.0 in July. 17.3 per cent. of the urban deaths were from *diarrhœal* diseases, 20.0 per cent. of the rural, these deaths having decreased from July in the urban towns by 450, whilst in rural towns the number of diarrhœal deaths is more than double that of July.

Diphtheria causes in August fewer deaths than in any other month in this State; there were 198 deaths, a small decrease from July, the average of the past five years being 221, past ten years 307, past fifteen years 348. There were more deaths in August of the past two years, the distribution being general, with no special epidemic report. No *small pox* has existed in the State since July. Reports indicate an unusual prevalence of *typhoid fever* in all parts of the State, and give promise of an excessive mortality in the succeeding month.

THE NEW YORK STATE MEDICAL ASSOCIATION.— According to the press reports, the New York State Medical Association adopted, at its meeting on October 15, a new constitution declaring in effect that it was the only state medical organization, and providing for aggressive action to drive out all other societies, and to take their place. The constitution divides the state into five sections, in each of which there is to be a branch of the parent society. These branches are to admit to membership all county societies that will join. If the local societies refuse to join, the general society is to organize rival county societies, and to work for local mastery in every section. The following officers were elected: President, John Q. Wyeth, of New York; vice-president, A. A. Hubbell, of Buffalo; secretary, Fred. Hows, of Higgin; treasurer, E. H. Squibb, of Brooklyn; vice-presidents of districts, Charles B. Tafft, of Utica, John F. Wheeler, of Chatham, Theron A. Wales, of Elmira, William H. Thornton, of Buffalo, and J. C. Brerwith, of Brooklyn; committee on legislation, E. Elliot Harris, of New York ; committee on libraries, J. F. Gonley, of New York.

REPORT OF CHIEF SURGEON OF THE DEPARTMENT OF THE MISSOURI.— Deputy Surgeon-General James P. Kimball, (A. M. C. '64), Chief Surgeon of the Department of the Missouri, has submitted his report for the fiscal year ending June 30, 1900. The mean strength of the command was: Officers, 64; enlisted men, 2,060; the admission to sick report during the year were 4,310, of which 3,494 were for disease, and 816 for injury. The average number daily on sick report was 124, and the constant non-effectiveness per thousand of mean strength, 58.38. The ratio of deaths to command was 7.06 per thousand of mean strength; for disease, 4.70, and for injury, 2.35. In the preceding year the rates per thousand for all causes was 12.88; for disease, 11.31, and for injury, 1.57. It is, perhaps, worthy of note, that of the 114 men discharged for disability, 54 per cent. were between 18 and 22 years of age. An inference which may be drawn from this fact is that youths of this age should undergo an especially careful physical examination before they are accepted as recruits. The excessive sick rates of the past two years are attributable largely to the presence of troops enervated by service in the tropics, or suffering from disease contracted there. Venereal diseases are responsible for a large number of admissions to sick reports. Malarial fever is found to be the cause of admission in 18 per cent. of the cases, and venereal disease in 16 per cent. Six volunteer regiments, five white and one colored, were organized in this Department during the year.

PERSONAL.—DR. FRED. A. SMART, (A. M. C. '99), of Carlyle, N. Y., is the Democratic candidate for coroner of Schoharie County.

—Dr. GEORGE COOPERNAIL, (A. M. C. '00), has been appointed resident physician at the Long Island Home, situated at Amityville, N. Y.

—Dr. W. J. SWART, (A. M. C. '98), represents the Board of Foreign Missions of the Presbyterian Church at Patchaburee, Siam.

—SURGEON-MAJOR LEWIS BALCH was welcomed home by a number of officers of the old Tenth regiment and of the Tenth battalion, who gave a dinner in his honor at the Fort Orange Club recently. Major Balch has seen continuous service since he left Albany in May, 1898. Major Balch was surgeon of the Tenth battalion and accompanied that command to Camp Black in May, 1898. When the Tenth was sent to Honolulu, he was attached to the Second Regiment, U. S. V., and sent to Florida. Subsequently he went to Cuba and took part in the sanitary regeneration of that island, traveling about the country on regular tours of inspection. Toward the end of last year, being ordered to the Philippines, he spent a few days in this city on his way across the continent. He returned from the east about a month ago, and since then has been at the military hospital at Hot Springs, Va. Orders have been issued by the war department for the honorable discharge of Major Lewis Balch. His discharge takes effect on November 7. After November 7, it is expected that he will return and resume the practice of his profession here.

MARRIED: ROSS—HOLT—At the Reformed Church, Port Ewen, N. Y., October the twenty-fourth, Dr. George W. Ross, (A. M. C. '99), and Miss Dulcie Holt, formerly of Albany. Dr. and Mrs. Ross will reside at Port Ewen.

Book Reviews

Christian Science. An Exposition of Mrs. Eddy's Wonderful Discovery, Including its Leading Aspects. A Plea for Children and Other Helpless Sick. By WILLIAM A. PURRINGTON, Lecturer in the University and Bellevue Hospital Medical College, etc. Pp 194, 6x8 inches, cloth ($1.00).

Mr. Purrington here gives in book form, under the following titles, certain articles which previously had been published separately in magazine, medical journal or newspaper:

1. Christian Science and its Legal Aspects.
2. The Case Against Christian Science.
3. Manslaughter, Christian Science and the Law.
4. Christian Science Before the Law.
5. How Far Can Legislation Aid in Maintaining a Proper Standard of Medical Education?
6. The Evolution of the Apothecary.

Mr. Purrington writes as one who strongly feels the need of enlightening the public as to what he believes regarding Christian Science. He is convinced that it is a delusion and a snare. His chief endeavor is to describe it, and especially its vagaries and inconsistencies, and to show how much needless suffering is directly and indirectly caused by it. He quotes freely from Mrs. Eddy's book, "Science and Health," and finds numerous reasons why this alleged delusion should be exposed, and the so-called healers made to conform not only with law, but with reason.

The claim that Christian Science healers should have not only moral character, but an average equipment through study and training, before they are allowed to practice, is a most valid one. and not till they are thus qualified will they be able to guard against the miserable blunders and failures which now so mar their practice. A sort of favoritism is shown them when less is demanded.

Believing in mind, but not in matter, as they profess, they go on eternally beating their heads against only too conspicuous walls. To deny the existence of matter is wholly needless, even from their own standpoint, as they get nowhere by it, and the Mental Science party, which makes no such denial, accomplishes equal and more than equal results. Not to deny the existence, but the supremacy of matter, is the thing, and this should be done ever and evermore. The mind is the first fact, and mind is supreme. And the mind possessed by rational and hopeful beliefs and emotions fortifies the body and increases its resistance to disease. Modern science teaches no more important lesson than that health, or the lack of it, is exactly proportionate to resistance, or the lack of it.

Mr. Purrington evidently says what he really thinks, and although his book contains a good *resumé* of Christian Science in bare anatomy, from the pen of an unfriendly critic intent on saying only what is true, it still makes of it little more than a mass of dry bones without life or use. From the book one can gather any number of facts unfavorable to Christian Science, (and it must be admitted that these far outnumber the favorable facts), and therefore if the reader is seeking for weapons to use against this indescribable cult, this book is the tight arsenal. This is an important fact, for Mr. Purrington has set down nothing in malice, and evidently aims to do the subject simple justice.

The writer of this review is no apologist for Christian Science, but he sees in it a blind and crude endeavor to utilize the invisible and intangible forces of nature, the silent forces which are the imponderables said to move the world. Medical men surely should not be behind in the recognition and use of such legitimate force in the treatment of disease, though it must be acknowledged with shame that this is too much the case. Suggestive therapeutics, as practiced by a large and growing number of intelligent physicians, has proved to be a method of great usefulness, and broadly speaking, Mind-cure, Faith-cure, Christian Science, etc., are but more or less widely varying phases of this general subject. That *faith* must underlie these methods is saying no more than can be said of every method, if the best results would be attained.

Christian science has in it so many errors and glaring absurdities that many are repelled by these who would like to avail themselves of its healing and otherwise helpful powers. For example, to deny the existence of matter is not only absurd but is wholly unnecessary even from its own point of view, and it is a serious question whether the seeker after health who applies to Christian Science is not getting another form of disorder (mental) equally great as to the one for which relief is sought.

The fact is all the truths of Christian Science are contained in Mental Science which, unlike Christian Science, is wholly rational and aims as much at the improvement of character as of bodily health (they stand or fall together), so that if healing is wanted it may be had in a perfectly reasonable manner Besides, Mental Science claps on no badge of a name, urges no new religion, but gives the applicant what he seeks and lets him go his way.

A large burden on Mr. Purrington's mind is the harm variously done by Christian Science, and above all the harm to the health of such as employ it as a means to recovery. He rightly says that many deaths are caused by it, which to innocent children and those too old to judge for themselves is a crying evil. It is no excuse for these misguided folk that harm is sometimes done by regular physicians; unfortunately too much harm is done by physicians, it must be admitted, and that it is done by legal sanction is no extenuation of the abuse. But if life must be sacrificed let it be done by presumedly scientific men, by all means.

Possibly there is such a thing as a rational analysis of so irrational a thing as Christian Science. One source of good derived from it is the brotherly affection existing among its members, and love is a power the strength and value of which the world has yet to learn. Added to this is the strength and help derived from association, the social element. Again, the mysterious but not less certain effort of the mind on the body accounts probably for most of its success Ideas and emotions of a distressing nature, so often indulged by the most intelligent persons otherwise, so alter the nutrition of the body, especially when long continued, as to lessen the normal resistance and open many doors to the entrance of disease. Again, to be rid of the frightful nightmare of a devil and sin, clothed by the masses with life, activity and positive evil, is to be rid of one of life's greatest burdens. Again, to see in the inevitable hardships of life evidences of love and interest on the part of Providence, instead of wrath and displeasure, is another great help. It was a heathen philosopher (Seneca) who said two millenniums ago that calamities are but divine instruments of training, to know which is to discover the sweet uses of adversity and find in it not hinderance but furtherance.

Ideas such as these and the resulting depression of vital force have long bound mankind as with bands of iron. They are also responsible for much of the prevalent unrest and discontent, which in their turn have so operated on the functions of the body as to render it vulnerable and susceptible to all forms of both acute and chronic disease. And modern science has discovered no more important truth pertaining to health than that resistance (strength, vigor, vitality) is first and last our only salvation. With the resistance high disease is easily warded off, or overcome if already present. This most pregnant and far-reaching fact, the value of which even scientific men are only beginning to appreciate, must modify all the old forms of treatment and finally do away with much of the now ceaseless but quite unnecessary medicine-giving.

SELWYN A. RUSSELL.

The Student's Medical Dictionary. Including all the Words and Phrases Generally used in Medicine, with their Proper Pronunciation and Definitions. Based on Recent Medical Literature. By GEORGE M. GOULD, A. M., M. D., Author of "An Illustrated Dictionary of Medicine, Biology and Allied Sciences," etc. Large 12mo. Eleventh edition, enlarged. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1900. Price $2.50.

This dictionary has acheived well merited success and the eleventh edition shows improvement over preceding editions. A large number of illustrations and tables have been added and yet its bulk is but slightly increased and the price remains the same. A new feature and a valuable one is a supplement of nearly seventy pages containing an alphabetical list of clinical eponymic terms, symptoms, tests, etc. The labelling of new disease symptoms with proper names has increased so alarmingly of late years that their tabulation becomes necessary. Students should not burden their minds with the meaning or significance of Gersung's symptom nor of Jorissenne's sign. This volume contains everything that is necessary for a student's use and should form part of the library of every medical student. H. L. K. S.

A Cyclopedia of Practical Medicine and Surgery. Compiled under the editorial supervision of GEORGE M. GOULD, M.D., and WALTER L. PYLE, M.D. Philadelphia: P. Blakiston's Son & Co., 1900.

The object of this work, as stated in the preface, is the presentation in one handy volume in a concise and authorative manner of the most important facts in all branches of medicine and surgery that are of working value to the active practitioner. The book is arranged alphabetically, the main headings being in a large prominent type, while the sub-headings are in a smaller, but distinct type. Most of the articles are subheaded so that the various important subdivisions can be found without difficulty. Many useful tabulations are inserted illustrating various subjects which can be with advantage presented in this way, and an occasional cut in the text lends further elucidation in places. The alphabetical arrangement of the book, and the numerous cross references, render an index unnecessary.

Like all books of an encyclopediac nature, written by many authors, this one contains articles of unequal merit. The majority of the articles are concise and clean-cut, but there are a few which exhibit carelessness in construction. The article on blood is one of these. The author speaks of "large" polynuclear leucocytes, and does not mention large mononuclear leucocytes. He also states that the majority of mononuclear cells contain basophilic granules. The article on leukaemia contains the following sentence: "Microscopically the blood (in spleno-myelogenous leukæmia) appears to be normal, but there is really a small diminution in the number of the red cells, averaging slightly above 3,000,000, with a small diminution of the hæmoglobin." To say the least, the first statement in this sentence would be extremely misleading to one not acquainted with this subject.

One of the most difficult matters in preparing a book of this sort, is to see that the various subjects are assigned an amount of space relative to their importance. It seems to us that in some instances this has not been done. Undue prominence is given to a host of relatively unimportant drugs, whilst important diseases have been cramped and curtailed. The number of slightly known and little used pharmaceutical preparations would delight the heart of a state board examiner.

Of a necessity, as a result of the condensation of articles, some important points have been omitted. The article on œdema (or edema), contains no references to angio-neurotic œdema or hysterical blue œdema. The article on chills does not mention the yellow-metal chill. The article on influenza does not refer to neuralgia among the complications. The article on glaucoma omits the mention of resection of the cervical sympathetic in this disease. There are other and minor omissions, and occasionally reference to a disease is omitted, as for example myeloma.

The use of English words instead of Latin, as mentioned in the preface, is perhaps carried to excess in places. "Mediums" instead of "media" in the section on bacteriology suggests the spirit world. Why not "streptococcuses" instead of "streptococci?"

G. B.

A Dictionary of Medical Science: Containing a Full Explanation of the Various Subjects and Terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Pathology, Bacteriology, Surgery, Ophthalmology, Otology, Laryngology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, Etc. By ROBLEY DUNGLISON, M. D., LL. D., late Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia, etc. Twenty-second edition, with Appendix, Thoroughly Revised and Greatly Enlarged, and with the Pronunciation, Accentuation and Derivation of the terms, by RICHARD J. DUNGLISON, A. M., M. D. Lea Brothers & Co., Philadelphia and New York, 1900.

In these days when everything is advertised as new and up-to-date, it is refreshing to find a medical book that has stood the test of time and is still without an equal in its particular field. Well do I remember the second edition of this dictionary, published in 1857. As a student it was my best friend. For its time the work was as complete as the twenty-second edition of the present day, and the number of editions through which this dictionary has gone, indicates its usefulness and popularity. From the first this dictionary has stood at the head of its class and has been kept there by the untiring efforts of the editor and publisher. The derivation of the words, together with the proper way to pronounce them, is a feature which must commend itself to all students of medicine. This dictionary will be used as a court of last resort, a book to which all medical disputes can be referred and amicably adjusted. In a word the twenty-second edition maintains the high standard set by its illustrious twenty-one predecessors. The publishers have done their work in an excellent manner.

A. V.

Modern Surgery, General and Operative. By John Chalmers Da Costa, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital and to St. Joseph's Hospital, Philadelphia. With 493 illustrations. Third Edition, Revised and enlarged. Philadelphia and London: W. B. Saunders & Company, 1900.

Modern Surgery. General and Operative, by John Chalmers DaCosta, M. D., is just what its name implies, a modern up-to-date surgery. It is an especially good book for students, in that they do not have to read through the pages of matter in order to get at the meaning. What is stated is stated in a precise and concise manner, and can readily be grasped by the student and busy practitioner. It is, as the author states in his preface, a book midway between the large and ponderous text-books, and the small, but often inaccurate compends—a book to which the student can turn and find instantly the desired information. The plates are well executed and timely, illustrating the more difficult parts of the subjects with great accuracy. The first chapter is very properly devoted to the subject of "Bacteriology," followed by a chapter on "Asepsis and Antisepsis." Both chapters embody the very latest teachings on the subject and contain more material than some of the ordinary so-called text-books. The article on "Syphilis" is especially well written. If the student grasps all therein written he need have no fear that he will be ignorant of the subject treated. The chapter on "Fractures and Dislocations" is also exceedingly good. The author very properly makes no mention of ophthalmology, gynecology, rhinology, otology and laryngology, leaving them to special works on the subjects. In short DaCosta's "Modern Surgery" fulfills a want. The publishers have done their work in their usual manner, leaving nothing to be desired on the part of the purchaser.

A. V.

Current Medical Literature

SURGERY

Edited by A. Vander Veer, M. D.

Metatarsalgia (Morton's Disease.) — By N. Giannettasio, *Revue de Chirurgie, February 10, 1900.* As a result of more careful investigation metatarsalgia, long considered purely a medical disease, is to-day considered to be distinctly a surgical lesion. Morton in 1876 first described the disease, though Gross in 1864 had observed the train of symptoms peculiar to the disease. Peraire and Mally first demonstrated in 1899 that metatarsalgia was not an affection without a lesion, but was really a condensing ostitis. Radiographs demonstrated very clearly that there was frequently a marked change in the articular surfaces, in addition to which the metatarso-phalangeal joints are either deformed or subluxated. Gross believed the condition to be purely a periosteal inflammation. Morton, Bradford and others believed it to be an affection of the external plantar nerve. Bradford in a later work thought that it might be due to a teno-synovitis. Among the etiological factors there have been cited as predisposing causes of metatarsalgia the arthritic diathesis, gout, heredity, neurasthenia, epilepsy and hysteria. Some writers have believed that a loosening of the metatarsal ligaments allowed a displacement downward of the head of the metatarsal bone, which produced pressure upon the filaments of the external plantar nerve. The fourth metatarso-phalangeal joint is the one most commonly involved. Traumatism is almost a constant factor in the etiology of metatarsalgia. It may be due to too narrow shoes, continuous standing on the feet, or long marches. The pain usually disappears when the patient lies down or when the feet no longer have to suport the body The pain usually radiates upwards along the course of the anterior tibial nerve.

The writer reports a case of a girl of fifteen years, previously sound and healthy , who as a result of a slight injury of the left foot received by jumping upon the toes of the left foot, developed a painful affection of the second metatarso-phalangeal joint. The pain was greatly increased by walking. It disappeared, however, as soon as she ceased to stand on her feet. The pain radiated somewhat along the branches of the anterior tibial nerve. The tissues about the joint were normal. The head of the metatarsus was somewhat enlarged and exceedingly painful on pressure. By the aid of radiographs, enlargement was cleary demonstrated. The joint was resected, and the patient suffered no further difficulty. The head of the bone removed appeared normal on its external surface. On microscopical examination it was found that the cartilaginous layer of the bone was very much thinned, and that the cartilaginous cells instead of being arranged in columns, and also being scattered more or less throughout the cartilaginous tissue, were in this case collected into capsules containing a considerable number of cells. This pathological condition the writer believes explained in full the clinical symptoms.

Total Splenectomy for Hypertrophy and Displacement of the Spleen, Associated with Primary Carcinoma of the Pedicle. — By F. Lobet, *Revue de Chirurgie, February 10, 1900.* Since 1549 when Zacarelli removed an hypertrophied spleen successfully it has been proven over and over again that life is possible without the spleen. It has been shown that the disturbances which follow the removal of the spleen are not necessarily serious, and that the patient may live many years in perfect health. Robin in 1867 examined very carefully the blood of a patient from whom Pean had removed the spleen, and concluded that the morphological and numerical changes in the red blood corpuscles which resulted from this operation are only transitory, and that they disappear without any serious alteration in the character of the blood. Aldermann in 1881 published statistics of twenty-five operations, in only one of which death had occurred. These were cases in the main of traumatism or hernia. The statistics in cases of hypertrophy, malarial change, or malignant tumors are much less satisfactory, only three patients having survived in twenty-one operated upon.

The writer has treated fourteen tumors of the spleen, all of them hydatid cysts, and all of these patients have recovered. The mortality of the removal of the spleen for hypertrophy or displacement is about thirty-three per cent. The writer reports a case of a young woman of twenty-two years in whose abdomen a tumor had gradually developed, which had given rise to a good deal of pain and discomfort, slight fever, nausea and vomiting. She presented herself for operation two months after the tumor was noticed. The diagnosis was made of an abscess of the abdominal wall because the tumor seems to be attached to the abdominal wall, and gave a sensation of fluctuation at its center. At operation the tumor was found to be an enlarged and displaced spleen, which was adherent to the abdominal wall. Situated in the pedicle of the spleen there was a nodule about the size of a small hen's egg, which on microscopic examination proved to be a carcinoma. The character of the carcinoma is not stated, nor is its origin explained. The patient made an uninterrupted recovery The spleen weighed 2,500 grams, and microscopically showed mainly an interstitial change. An examination of the blood two months after the operation showed that there were 4,600,000 red corpuscles. The general condition of the patient was at that time very satisfactory.

Tumors of the Biliary Passages. — By F. Terrier and M. Auvray. (*Revue de Chirurgie. February 10, 1900.*) The first work of especial importance upon this subject was published in 1840 by Durand-Fardel and Villard. In 1890 Courvoisier published his important work upon the surgery of the biliary passages, in which he collected 103 cases of neoplasms of the gall bladder. In 1894 Heddæus published from Czerny's clinic the first important work relating to the surgery of neoplasms of the biliary passages. Tumors of the biliary passages are both primary and secondary. Involvement by contiguity is the most important factor in the etiology of the secondary tumors. The great majority of the tumors are malignant and benign tumors of the biliary passages are very rare. Malignant tumors seem to be very much more common among women than among men. In the writer's statistics forty out of fifty patients operated upon for carcinoma of the biliary passages were women. The presence of biliary calculi seems to have a marked influence upon the development of carcinoma of the biliary passages, especially of the gall bladder, and it is because lithiasis is much more common among women than among men that carcinoma of these parts is more common among women than among men.

Zenker found that eighty-five per cent of cases of carcinoma of the gall bladder were associated with calculi. In brief one may summarize carcinoma of the biliary passages as a carcinoma of adult age, especially common among women, usually primary, and almost always following cholelithiasis. Tumors of the biliary passages most commonly involve the gall bladder. Of benign tumors of the gall bladder there have been reported cystic tumors, hydatid cysts, fibrous tumors, myxomata and papillomata. Carcinoma of the gall bladder may be of the encephaloid, colloid or scirrhous variety, and shows a tendency to originate in the lower part of the gall bladder. Neoplasms of the common duct show a tendency to originate at the beginning or end of the duct. All writers agree that the symptomatology of neoplasm of the gall bladder is very obscure. There are, however, two main clinical forms distinguished The first resembles primary carcinoma of the liver. There is no ascites, no icterus until late in the disease. The liver is voluminous—more or less regular. The second variety is characterized by marked icterus with ascites and cachectic phenomena. Hemorrhages from the skin, mucous membrane or organs occur not infrequently. Fever sometimes occurs. One of the main symptoms of carcinoma of the common duct is icterus.

In making a differential diagnosis of the tumors of the biliary passages one should bear in mind the possibility of hydatid cyst, abscess of the liver, cancer of the liver, floating lobe of the liver, neoplasms of the pylorus, tumors of the intestine, stercoral tumors, floating kidney, tumors of the kidney, tumors of the peritoneum, tumors of the mesentery, tumors of the greater and lesser omentum, tumors of the abdominal wall, and tumors due to biliary calculi.

As for the treatment there is none on the medical side, and surgical treatment is usually merely palliative—very rarely curative. The curative operations practiced are, partial cholecystectomy, total cholecystectomy or cholesystectomy with resection of a portion of the liver are to be preferred. One should always hear in mind the necessity of carefully extirpating the lymphatic glands in the neighborhood of the liver.

MEDICINE

Edited by Samuel B. Ward, M. D.

Digitalis and its Aid in Chronic Cardiac Disease.—In a paper read before the Cleveland Medical Society (*Cleveland Journal of Medicine, February,* 1900), Dr. J. B. McGee discussed the indications for the use of digitalis together with those drugs most commonly substituted for or given in connection with digitalis. He lays greater stress upon maintaining the integrity of the heart muscle than valvular lesions which may coexist, for a weakened condition of the myocardium will not permit the proper compensation of valvular defects, while the intensity of a murmur bears little relation to its gravity. The rational treatment of deficient compensation should lessen the labor of the heart, improve its nutritive supply and increase its power and when the evidence of failing power exists digitalis is doubtless our chief reliance.

The use of digitalis not only aids the immediate symptoms by lengthening the diastole but also produces an increase of the volume of the heart muscle, this gradual growth proving curative in contributing to the compensatory control. This drug exerts a favorable influence on the arteries, restoring the elasticity, so that a weak heart, low tension and dropsical effusion call for digitalis. Its use in the presence of high tension is enhanced by union with a vaso-dilator and nitro-glycerin is without doubt the best. The dyspnea of mitral lesions, is often associated with vaso-constriction and this combination here gives prompt relief.As the two drugs differ greatly in promptness they may be given separately, though the combination is very efficient.

When for any reason digitalis disagrees or fails to give satisfaction when used, strophanthus is conceded to be next in general therapeutic worth. Its action is almost exclusively upon the heart, rarely producing gastric disturbance or cumulative effects, and though lacking the nutritive effects of digitalis on the heart, excels it in promptness of action. Its special indication is when vascular tension is high or when arterial changes exist and small doses at frequent intervals act best.

Strychnine, while perhaps best as an emergency remedy, is exceedingly valuable in conditions of chronic cardiac weakness, being an ideal stimulant to the entire circulatory system. In conditions of cardiac asthenia, where the heart appears to simply lack nervous energy or muscular power, or both, it has no equal. In valvular disorders with failing compensation it forms an efficient aid to digitalis and its allies, and quite large doses are borne with benefit. Strychnine is preferable in the bradycardia to digitalis since the latter drug slows the heart, thus intensifying the distress. Judiciously given mercury will often give relief in cardiac cases, out of all proportion to the amount given. Their value is principally noted when combined with digitalis.

The mild chlorid is recommended in doses of one grain three times a day. It should be discontinued at intervals of a week for a short time to prevent salivation. Its effects are due to the diuresis, to the increased secretory activity and the lessening of the hepatic congestion. It may also exert an alterative action on the myocardium.

Small doses of black Indian hemp produce good results in cardiac dropsy. One of its active principles, apocynin, appears to resemble digitalin in its effects on the heart, so the diuresis produced is evidently cardiovascular in character and is very efficient in removing the dropsical symptoms of cardiac incompetency. E. E. H.

Cerebral Pressure Symptoms in Typhoid Fever. — By H. Salomon. *Berl. klin. Woch., February* 5, 1900. Since the introduction of lumbar puncture by Quincke, it has become possible to determine the pressure of fluid in the cerebro-spinal canal. The writer observed that in the initial stages of typhoid fever the optic disc presented somewhat of a hazy appearance. There was a distinct capillary injection and the veins were distended and twisted. This led him to suspect the existence of an increase of the pressure of the cerebro-spinal fluid. Accordingly he performed lumbar puncture on several cases of typhoid fever which manifested the signs already described in the disc and complained of severe headache and pain in the eyes. He found that in each of these cases there was an increased pressure in the cerebro-spinal fluid which he was able to relieve by the puncture, and which was followed by a cessation of the cerebral and ocular symptoms. Cultures from this cerebro-spinal fluid were sterile. The writer divided the cerebral symptoms in typhoid fever into three classes: (1st) Purulent meningitis with typhoid bacilli in the exudate; (2d) cerebral symptoms due to the action of toxines with a low cerebro-spinal pressure; (3d) an intrameningeal exudation probably due to the action of toxines, giving rise to the symptoms just discussed.

This increased cerebro-spinal pressure may also explain the slow pulse seen in some cases of typhoid fever. Opinions differ as to the frequency of optic neurites in typhoid. Gowers however considers it of not especially infrequent occurrence.

Lymphæmia without Enlargement of the Lymphatic Glands. — By A. PAPPENHEIM. *Zeit. für klin. Med.*, *Bd.* 39, *Hft.* 3-4. By leukæmia in contradistinction to pseudoleukæmia is understood an enlargement of the spleen or lymphatic glands, associated with a characteristic condition of the blood. Ehrlich divides the leucocytes found in the blood in leukæmia into two distinct groups, the non-granular, non-amoeboid lymphocytes and the granular amoeboid bone marrow cells. Leukæmias are divided into two main groups—the lymphatic and the myelogenous. The splenic tumor and the enlargement of the lymphatic glands, as well as the development of the lymphoid or myeloid tissue in other parts of the body, are to be considered of a metastatic origin. Hirschlaff has reported a case of lymphatic leukæmia, in which at autopsy none of the characteristic changes were found in the spleen, lymphatic glands or bone marrow. Kormaczi has recently reported a similar case. The writer reports two cases in both of which the blood condition was perfectly characteristic of lymphatic leukæmia. At autopsy in both cases the spleen and lymphatic glands were of normal appearance, both macroscopically and microscopically. The bone marrow, however, in both cases showed a lymphoid degeneration in which the normal marrow was replaced by lymphatic tissue, and in which there was an absence of the Charcot crystals. The writer is inclined to believe that the changes in the bone marrow explain the blood condition in these cases. The existence of a small number of lymphocytes in normal bone marrow has been demonstrated. The writer believes that leukæmias in general are due to a hyperplasia of the bone marrow; that is, a tumor formation, analogous to the enlargement of the spleen and lymphatic glands commonly known as pseudoleukæmia.

Neumann believes that if the disease process attacks the spleen or lymphatic glands pseudoleukæmia results. If, however, it attacks the bone marrow leukæmia results.

The writer believes that his cases show that lymphatic leukæmia is directly due to a disease of the bone marrow, and that in some cases the disease of the bone marrow is the only lesion demonstrable. The writer also advances an analogy between the pathological processes in pernicious anæmia and leukæmia. In the former there is a transformation of the bone marrow in which the embryonic red corpuscles form the predominant feature, while in leukæmia the transformed bone marrow is characterized by colorless cells. The writer does not believe as does Ehrlich that the presence of a large number of megaloblasts in the blood of pernicious anæmia affords a bad prognosis, but he considers it a fairly favorable symptom because it indicates that the regenerative function of the bone marrow is not entirely destroyed. The writer also believes that in the early stages of the development of leukæmia before the blood condition becomes characteristic, the blood condition may suggest pernicious anæmia due to the fact that a considerable portion of the red bone marrow no longer produces red blood corpuscles.

NEUROLOGY

Edited by Henry Hun, M. D.

Case of Tabes with Almost Complete Laryngoplegia. — Report in *Laryngoscope, April, 1900.* This case was shown to the Laryngological Society of London by Sir FELIX SEMON. A. S., *aetat* 40, was admitted to the National Hospital under the care of Hughlings Jackson. Had syphilis five years before with secondary symptoms and was treated only a few weeks. His present symptoms began fourteen months before admission with loss of control over the bladder. This was followed by numbness and shooting pains in the legs, trunk and hands, ataxia and gastric crises. For nine months his voice had been altering and he had had shortness of breath, but apparently no laryngeal crises. On examination extreme general emaciation was found. Arteries thickened and tortuous. Double ptosis. Reflex iridoplegia. Slight weakness of the right half of face. Extreme inco-ordination; can only walk when supported. Entire loss of sense of passive movement in lower extremities. Analgesia, partial over face, over arms and upper part of chest and over lower extremities. Severe shooting pains and gastric crises. Complete incontinence of sphincters; no·anal reflex. All deep reflexes absent, no difficulty in swallowing, no return of fluids through the nose. Patient spoke in loud hoarse whisper. On attempted phonation the palate itself remained perfectly motionless, but the posterior arches made some rapid and feeble inward movements. The tactile sensibility was perfectly normal, but the reflex excitability was much diminished, though not completely abolished. Examination of the larynx showed that during quiet respiration both vocal cords stand perfectly motionless in about the minimum width of the cadaveric position (about three millimetres) apart, but their posterior ends were a little nearer one another than is usual under such circumstances, and their free borders were not excavated, but perfectly straight. Neither on attempted deep inspiration nor on phonation is the slightest movement of the cords visible. The case is extremely rare. Author states that this is the third case he has ever seen of complete bilateral recurrent paralysis, and the first he had ever seen in tabes. There is only one case of complete bilateral recurrent paralysis in tabes on record, the one reported by Gerhardt. Another remarkable circumstance was the comparative loudness of patient's voice. This was undoubtedly due to the fact that the crico-thyroid muscles must have escaped and so tension of the vocal cords could be produced. It was also strange that a few fibres of the accessory and vagus had escaped, as shown by the fibrillary contraction of the palatinal muscles, the possibility of closing the glottis on peripheral stimulation, by the diminished reflex irritation of the palate and larynx, and by the possibility, through the crico-thyroids, of producing tension of the vocal cords.

Landry's Paralysis.—JULIUS KAPPER (*Wiener klinische Wochenschrift, No. 7, 1900*) makes an exhaustive contribution to the study of Landry's paralysis, with especial consideration of the bacteriological and histological findings of the disease. Bershardt, in 1871, and Westphal, in 1876, attributed the disease to an intoxication, and summarized the manifestations of Landry's paralysis in the three features of (1) a progressive, ascending, eventually fatal course; (2) preservation of the electrical excitability in the paralyzed muscles; and (3) the negative results of the autopsy. Further observations, which developed especially after the influenza epidemic of 1899-'90, led to some confusion between Landry's paralysis and polyneuritis, and these were reconciled by a division of the cases into two forms—a bulbar, or medullary, and a neuritic. The literature upon the subject may at the present be classified, as speaking for four groups: (1) Cases, in which the microscopic examination of the nervous system gives negative results; (2) Cases which present disseminate inflammations or exudates and capillary hæmorrhages in the medulla oblongata, or acute exudative inflammation in the spinal cord, occasionally also meningitis or meningo-myelitis or lightest polio-myelitis, swelling of the axis cylinder in the white substance of the pyramidal tracts, degeneration of the anterior roots; (3) cases in which a neuritic process was established as the substratum of the disease and, (4) cases in which a combination of neuritis with myelitic processes has been found.

Researches upon the micro-organisms assigned as the cause of Landry's paralysis, have resulted in the discovery of the anthrax bacillus in the blood and spinal cord; typhoid bacilli in the cord, bacilli in the endoneural lymph spaces in interstitial neuritis; mixed infections of staphylococci as found in various stick-cultures, the streptococcus longus, a diplococcus, a bacillus similar to the anthrax bacillus, the Fränkel-Weichselbaum bacterium, and possibly the diplococcus intracellularis of Weichselbaum. Numerous autopsies show the characteristic lesions of an acute febrile process: a large soft spleen and liver, swelling of the kidneys, mesenteric glands and follicles, hæmorrhagic foci in the lungs and intestines. The author reports a case whose record may be summarized as follows:

The patient was a man, thirty-three years of age, by occupation, a launderer, not addicted to drink, whose occupation called the upper extremities into special activity. Except a slight affection of speech, which endured since childhood, and a large struma, there was no indication of disease. In the beginning of May paræstheisæ appeared in the fingers of both hands. On 7th May, patient smoked twice as much as usual; on 8th May, appeared severe headache, vertigo, pains in the calves paræsthesiæ and paresis of the lower extremities. After the 8th of May patient was kept in bed by an attack of bronchitis, and after the 13th came under clinical observation, which revealed the following condition: sensorium free, concentric diminution of the field of vision for white and colors, pupils reacted slowly to light, better to accommodation. Corneal, palatal, plantar, patellar and abdominal reflexes not obtained. Internus and transverus paralysis. Sensibility undisturbed. There was no tenderness of the muscles or nerve trunks. Bladder and rectum intact. High degree of flaccid paralysis, no ataxia, no reaction of degeneration. In the urine there was no albumen, no sugar, but the tests for indican and skatol were positive. On the 14th of May dyspnœa, spasm of the throat, cyanosis, and on the 15th, paresis of the intercostals and profuse sweats developed, on the 16th, distinct paralysis of the phrenic, and rapidly increasing exhaustion; on the 17th, was mentally clear, collapsed, and at four o'clock, died. The course until a short time before death was afebrile. The author discusses at length the differential diagnosis, and favors the theory of an auto-intoxication as the cause of the disease. His conclusions are as follows:

(1) The case was one of Landry's paralysis, in which both the blood and urinary examinations during life, as well as at the autopsy four hours after death, and the pathological histological examinations of the central nervous system and the peripheral nerves gave a completely negative result.

(2) In Landry's paralysis laryngeal palsies, represented by paralysis of the internus and transversus, identical with those seen in hysteria, may appear.

(3) As an ætiological factor in the production of Landry's paralysis, auto-intoxication is to be considered; probably one arising in the intestine, to be traced to excessive production of waste.

(4) In this way may be explained, on the one hand, in spite of a fulminating clinical symptom, a negative result of the necropsy, or on the other hand, pathologically-histologically, the assumption of a toxic polyneuritis or myelitis. In the case reported the presence of the products of intestinal decomposition in the urine and the immediate improvement of the patient, after cleansing of the bowel, speak in favor of auto-intoxication.

(5) In view of this assumption anti-fermentative measures are indicated for treatment.

Remak's Femoral Reflex.—At a meeting of the Berlin Society of Alienists and Neurologists, REMAK demonstrated a child who presented the so-called femoral reflex. (*Central. f. Nervenh. u. Psychiatrie, January, 1900*). This reflex is obtained by irritating the anterior aspect of the thigh, and is shown in flexion of the toes, and in some cases in extension of the thigh. Remak has invariably obtained this reflex in cases with interruption of the conducting paths of the spinal cord, and generally in spondylitis, but also in carcinoma of the vertebræ. Strümpell has asserted that this appears more generally in cases of paraplegia, as an extensor reflex of the thigh, while the foot is at rest. Remak, on the other hand, has observed more regularly the flexion of the toes, and calls attention to Babinski's plantar reflex in diseases of the lateral columns. The patient, who was presented in illustration of the phenomenon, was the child of a mother who was affected with catarrh of the apex, and whose grandmother had died of tuberculosis. The child had a curvature of the spine at the level of the third and fourth dorsal vertebræ, and spastic paralysis of both legs with marked exaggeration of the tendon reflexes. It is possible that a conclusion as to the height of the affection may be reached by the various reflexes shown. In such cases as the present one there is a flexion of the toes first, while in deeper transverse affections the extension of the knee may be more easily elicited.

DERMATOLOGY

Edited by F. C. Curtis, M. D.

The Role of the Pus-Organisms in the Production of Skin Diseases. — By George T. Elliot. In the *February, 1900,* issue of the *Journal of Cutaneous and Genito-Urinary Diseases,* is this article, which was read before the American Dermatological Association at Philadelphia, in 1899. When it was first learned that suppuration was the result of the presence of certain micro-organisms, dermatologists hoped that in this fact was an explanation of all purulent lesions of the skin, *i. e.,* that all lesions were only an evidence of local inoculation of pus germs. Although micro-organisms of some kind certainly cause the production of pus, still pus sometimes originates when no micro-organisms are present; moreover, it is also due to other agents than micro-organisms or their products. A distinction must be made between true pus and pseudo-pus. The former is rich in leucocytes and contains, in its fluid portion, considerable quantities of peptone. The cause of the leucocytic emigration is the bacterio-protein elaborated by the germs, which, paralyzing the white blood-cells, prevents their return to the blood-vessels, and they thus become pus-corpuscles. Pseudo-pus is not a leucocytic exudate, but is due to the proliferation of the fixed cells, and has not the peptonizing qualities of true pus. In certain bacterial diseases intense leucocytosis may occur and yet no pus result. This is the case in anthrax, in the exudate of which there is no pus. An exudate which is chemically purulent may or may not be true pus. The causes of suppuration, so far as known, are microbic, chemical and of unknown origin.

Of the chemical causes of suppuration, ten are named; of the microbic, twenty-five are named, including some classes. The author says all of these have been accused of producing cutaneous suppuration but the commonest of them are the staphylococcus pyogenes aureus and albus and the streptococcus pyogenes. These germs do not always produce pus, solely. They have caused necrosis, false membranes, gangrene and grave, non-purulent affections. Jordan and Felsenthal have reported severe erysipelas, without suppuration, caused by the staphylococcus aureus. The products of these bacteria have also been accused of producing suppuration. It has been claimed and denied that filtrates of sterilized pure cultures of the pyogenic staphylococci cause suppuration in the lower animals. Buchner, while denying the effect of the filtrates, holds that the dead bacteria on the filtrate are capable of producing pus. Besides the bacterial toxins, other substances are claimed to cause pus; as, for example, the absorption of excreta, of gall, etc. Charrin says the absorption of glucose does not, perhaps, cause pus, but increases the activity of the bacteria already present. The author goes over the factors of prime importance, as the points of entrance, the resisting power of the tissues, the degree of virulence of the bacteria themselves; discusses an inoculation from without, infection from within, and considers, largely, the more clinical side of the subject with reference to the conclusions of the various investigators, and with reference to the different bacteria and various skin diseases. He declares his review of the question to be brief, necessarily, owing to the enormous amount of existing literature, but says that from this review it must be evident that though micro-organisms, especially the staphylococci and the streptococci, are recognized as being the particular cause of suppuration, many other factors of external and internal source are also allowed to be active in producing that same objective result to which the name of pus is given, but which may or may not be true pus according to its source and constituents. Clinically, pus may appear to be present, yet clinically it is not possible to determine whether it is pseudo or true pus. It can also be seen that as far as cutaneous processes are concerned, the causal connection between the suppurative lesion and the pyogenic organisms is, with few exceptions, more the result of an *a priori* and an analogical reasoning than of actual demonstration; is more the outcome of the fact that their presence can produce pus than that they did produce pus in these lesions in which they were found. In the large proportion of cutaneous diseases essentially suppurative or secondarily becoming such, no constant pyogenic germ organisms have been found by various investigators, but most contradictory results are recorded, and inoculation experiments have not been made or have been negative, or have failed, or at any rate have not produced the lesion from which the bacteria were obtained. In consequence, when the field is gone over, only one positive fact would be emphasized by the author, namely, the pyogenic micro-organisms, the staphylococci and the streptococci, are in general the cause of suppuration, but yet they are not the only cause. Their connection with the production of cutaneous lesions, with the exception of abscess, phlegmon, whitlow, carbuncle, furuncle, and sycosis, rests so far upon a too slender basis for any absolute conclusions to be drawn. Unity of observation, unity in regard to the bacteria, and, above all, unity in experimental inoculation and production of the lesion, all are required before a positive verdict can be given, that such or such a suppurative process is the result of such and such pyogenic germs, and that it is due to nothing else. When that is done, and it has not yet been done, then we may regard the subject as settled, but until then we are not in a position which cannot be assailed from any and every quarter.

OPHTHALMOLOGY

Edited by C. M. Culver, M. D.

Spontaneous Disappearance of Senile Cataract.—WALTER L. PYLE, (*Philadelphia Medical Journal, March, 1900.*)—Although a cataractous lens usually remains opaque until disturbed by traumatism or operation there will occasionally be cases of complete spontaneous disappearance of senile cataract. Doubt of the authenticity of such cases might have been dispelled by the report of Brettauer, of Trieste, made at the meeting of the International Ophthalmological Society at Heidelberg, in 1885; his report embracing three cases in which there had been spontaneous absorption of senile cataract, with restoration of vision, in each of which cases he had extracted the cataractous lens from the fellow eye. In each of the eyes, whose cataract had spontaneously disappeared, there was absolutely no history or sign of injury, operation or disease. The case histories had been carefully obtained and the cases themselves followed for many years. Dr. Becker, Professor of Ophthalmology at Heidelberg, substantiated Brettauer's statement, and it was unanimously agreed that the three cases reported were genuine instances of spontaneous, complete absorption of senile nucleo-cortical cataract without injury to the capsule.

Similar observations have been reported by more than a score of reputable ophthalmologists. Of the cases reported, five classes may be made.

1. Cases in which there was absorption after spontaneous rupture of the anterior or posterior capsule.
2. Cases in which there was spontaneous dislocation of the cataractous lens.
3. Cases in which there was intracapsular resorption of the opaque cortex and sinking of the nucleus below the axis of vision, after degenerative changes in Morganian cataract, without rupture of the capsule or dislocation of the lens.
4. Cases in which there was complete spontaneous resorption of both nucleus and cortex without reported history of ruptured capsule, dislocation or degenerative changes of the Morganian type.
5. Cases of spontaneous disappearance of incipient cataract without degenerate changes or marked difference in the refraction.

In this article instances of each class are reported. The author reports a case of his own, which comes under the fourth class. The patient was 73 years old, had marked senile changes in circulatory system. Several months before consulting Dr. Pyle, he had had an attack which was first diagnosed as apoplexy, but later as severe cerebral congestion with effusion. Vision had been satisfactory until a few months before he had consulted the author. Twenty-five years previously, a gray spot had come over the left pupil and he had become blind in that eye; Dr. Holmes of Chicago, had diagnosed mature cataract of the left eye. Operation was deferred on acount of the perfect vision of the right eye. Ten years later the cataract had become totally absorbed. When Dr. Pyle first saw him the left eye was absolutely aphakic, with no signs of lens or capsule. Anterior chamber very deep; iris tremulous and slow to react. Media perfectly clear, though there were some evidences of an old chorio-retinitis, with involvement of the optic nerve. With convex, spheric 13 D., central vision was 30-40, but in the periphery both the form and color-fields were almost nil. The right eye had an inconsiderable refractive error, after whose correction the right eye had normal vision; the field of form and color were much contracted on the temporal side. There was absolutely no history of injury or operation and the left cornea showed no cicatrix. Patient did not remember ever having had extreme pain or marked external evidence of inflammation in either eye.

A discussion of this matter naturally leads to the consideration of treatment of incipient cataract. Drugs are absolutely valueless. When they have been used, it has been with the purpose of nourishing the impoverished or vitiated intraocular structures or to apply locally or administer constitutionally some solvent or discutient substance. Arsenic, strychnin, phosphorus, castor-oil, and its derivatives, aromatic oils and many other drugs have been proposed, tried and found worthless.

Electricity was in vogue some years ago, but is now completely discarded. In 1862, Sperino, of Turin, published an account of forty-five cases of incipient cataract operated on by repeated paracentesis, in which he claimed that the results were very promising, in some cases perfect vision being restored. In 1865, Sir David Brewster contributed a paper to the Royal Society of Edinburgh, upon the cause and cure of cataract, wherein he described how he had cured himself of incipient cataract. Hogg, who became interested in the subject, wrote for a further explanation. In his reply, Brewster said that he believed incipient cataract to be due to impoverishment of the albuminous liquor Morgani between the fibres of the lens, causing desiccation. He thought that the necessary supply of fluid to the lens was derived from the aqueous, and that when there was too little water and too much albumin, in that humor, opacity commenced. He further reasoned that, therefore, incipient cataract might be cured:

1. By evacuating the aqueous by repeated paracentesis, in the hope that the fresh secretion might contain a less proportion of albumin and so counteract the desiccation of the lens.

2. By injecting distilled water or a fluid equivalent to healthy aqueous into the anterior chamber after paracentesis to take the place of the fluid discharged and lower the specific gravity of the humor. In cases of soft cataract he thought that if simple evacuation did not succeed, a fluid more albuminous than the aqueous might be injected. Although Hogg carefully followed Brewster's experiments, his results were practically negative. In a few cases he thought that he prevented the cataract from passing beyond the incipient stage. However, these cataracts might have remained stationary for many years if left untreated, and paracentesis and injection of the anterior chamber are rather formidable procedures to experiment with.

In 1891, Kalish, after discarding all drugs, evolved a form of treatment of uncomplicated immature cataract, including strict bodily and ocular hygiene, careful and repeated refraction, a special form of manipulation and the instillation of a mixture of equal parts of glycerine and one per cent solution of boric acid in rose water, for which he claimed good results in several cases. In a paper read in January, 1899, despite the lack of support and unfavorable criticism for nine years, he still maintained the beneficent results of his method, and claimed 59 successful results in 118 eyes, with even higher percentage in his very recent cases. There is little doubt that with the maintenance of good health, careful and repeated refraction and the proper use of the eyes, the chances of cataract maturing are greatly lessened, but beyond this any reliable method of treating incipient cataract has yet to be demonstrated, notwithstanding the clinical evidence as to its possibility.

Modification of the Pupils and its Importance from the Diagnostic View-Point.—Dr. LIEBRECHT, *La Presse Medicale, February 25, 1900.* The author provides a discussion of this subject, which appears to have potential utility for the practitioner. Immobility of the pupil, with conservation with the convergence, is one of the most constant symptoms of locomotor ataxia. In these cases the pupils may have their normal size or they may be much contracted, which fact is susceptible of explanation by the suppression of a great part of the sensory irritations, resulting from the softening of the sensory nerves. While it is usually bilateral, immobility of the pupil may be manifest on only one side, as was found to be true in six of sixteen cases seen by Liebrecht. The pupillary phenomena in ataxia are present in from thirty to seventy per cent of cases. Besides this immobility of the pupil there is very rarely, in such cases, a paralysis of the sphincter; on the other hand, such paresis of the sphincter is a frequent symptom of cerebral syphilis. What has been about said concerning the immobility of the pupil is true in all points of general paralysis, in which this absence of the pupillary reflex is shown in from fifty to ninety per cent of cases. In paralysis there is generally none of the myosis which is habitual in ataxia. Charcot's opinion, that inequality of the pupils and absence of pupillary reflex are to be seen in only tabes and paralysis, never in sclerosis and hysteria, can no longer be admitted generally. In cases of cerebral tumor or abscess of the cerebrum, no alteration of the pupil is produced as long as the optic nerve and the oculo-motor nerves remain intact. In meningitis, according as the exudate, ordinarily at the base, irritates or paralyzes, the pupils are first retracted and then unequally dilated. The symptoms of the paralysis of the sympathetic consist in a contraction of the pupil, but beside this there is a ptosis due to a loss of the activity of Mueller's muscle. In irritation of the sympathetic nerve, the pupil remains unchanged, although the upper lid is raised. Bechterew had a patient who could voluntarily dilate the pupil of his right eye almost to the maximum. Occasionally in infectious diseases and following the injection of spoiled meat, a paralysis of the sphincter pupillæ is observed, while in diphtheria there is paralysis of the accommodation with a conservation of the pupillary motility.

In chronic tobacco and alcoholic intoxication the pupils are contracted and change little in size.

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ALBANY MEDICAL ANNALS

Original Communications

THE ALBANY FILTRATION PLANT AND ITS EFFECT ON THE OCCURRENCE OF TYPHOID FEVER.*

By MARTIN MacHARG, M. D.,

Vice-President of the Medical Society of the County of Albany.

Mr. President, Gentlemen: A question that has been of great interest to Albanians for a number of years was how to obtain a sufficient quantity of pure water to supply the city's needs. Originally Albany was supplied with water by gravity from reservoirs on small streams west and north of the city. In time, with increasing consumption, the supply obtained from these sources became inadequate and an additional supply from the Hudson River was introduced. The water was obtained from the river through a tunnel under the Erie Basin, and a pumping station was erected in Quackenbush Street to pump it to reservoirs. The intake, which was used first in 1873, drew water from the river opposite the heart of the city. In recent years, the amount of water drawn from this source has greatly exceeded that obtained from the gravity sources. Some of the city sewers enter the river above this intake, but most of them are below it. In times of flood, the water thus obtained was polluted by the sewerage of only a few of the city sewers; at low water stages, however, owing to the tidal currents, the water contained much sewerage, which was carried up stream to the intake and the sewerage of the city was thus present in a very considerable amount in its own water supply. In addition to the pollution from local sources, the river receives the sewerage of Troy, Cohoes and other cities. Under these conditions the typhoid fever death rate in Albany was excessive. In 1885, Prof. W. P. Mason of Troy, made a report upon the quality of the water in which he stated, "The quality of the water as then used was a source of disease and should be abandoned." Following this, an attempt was made to secure a ground-water supply, but without results. In 1896, the Board of Water Commissioners investigated methods of purifying the present supply. The matter was studied by the Board and its Superintendent, Mr. George I. Bailey, who, after due consideration, placed the result of their studies before Mr. Allen Hazan, Civil Engineer of New York City, for a report upon the project presented. His report recommended the general scheme previously outlined by the Superintendent, namely, to abandon the present intake and to establish a new one about two miles farther up the river at a point above the local sources of pollution and to pump the water by low lift pumps to a settling basin from which it would flow to sand filters, and thence through a pure water conduit to the present pumping station in Quackenbush Street. The report was accepted, the recommendations adopted, the necessary funds provided, and in July, 1897, the preparation of plans was begun. Contracts were awarded in due time, but owing to various reasons connected with the installation of a very elaborate contractor's plant, work was not pushed actively until August, 1898. Construction was sufficiently advanced so that a part was put in operation on July 27, 1899. The old intake was closed September 6, 1899, since which time no unfiltered water has been pumped to the city. The intake is through a thirty-six inch pipe connected with a well in the pumping station. The water, before going to the pump, passes through a screen with bars two inches apart which are intended to stop matter which might obstruct the passage-ways of the pumps.

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* The Vice-President's Address; delivered before the Medical Society of the County of Albany. October 16, 1900.

The pumps have a capacity of 16,000,000 gallons in twenty-four hours. There are two pumps, either of which can supply the ordinary consumption, the other being held in reserve. The plant is so arranged so that if for any reason a large quantity of water is required when only one pump can be used, water can be pumped directly to the filters. Upon leaving the pumping station, the water passes through a thirty-six inch meter to the sedimentation basin through eleven outlets. This meter records the quantity of water pumped, also the rate of pumping. These eleven outlets consist of twelve inch pipes on end, the tops of which are four feet above the nominal flow-line of the basin. Each of these pipes is pierced with about 300 three-eighth inch holes through which the water is forced and becomes aerated and also supplies the sedimentative basin into which it enters. Aeration is necessary in that it supplies oxygen to the water and removes any slight odor that might be present in the water. As previously stated, the water enters the sedimentation basin through eleven inlets along the east side and is withdrawn from the baisn on the opposite side by eleven outlets. The water is admitted to each filter through a twenty inch pipe from a pipe system connecting with the sedimentation basin. Just inside the filter wall is placed a standard gate and beyond that a balance valve connected with an adjustable float to shut off the water when it reaches the desired height on the filter.

Each filter is provided with an overflow, so arranged that it cannot be closed, which prevents the water level from exceeding a fixed limit in case the balance valve fails to act. The filters, eight in all, are arranged on two sides of a central court, four being on each side. The entrances to the filters from the central court are in pairs. These entrances are used in cleaning the filters, for removing the scraped material from the beds and also in replacing the sand after being washed.

There are two sand-washing machines, one near each end of the central court and also near the entrances to the filters. These machines are used for washing the dirty sand which, after being cleaned, is then returned to the filters. The filters are contained in masonry chambers and covered to protect them against the winters. The piers, cross-walls and linings of the outside walls, entrances, etc., are of vitrified brick; all other masonry is of concrete. The floors of the filters consist of inverted, groined, concrete arches arranged to distribute the weight of the walls and vaultings over the whole area of the bottom. In order to provide ready access to each filter, a part of the vaulting near one side is elevated and made cylindrical in shape, making an inclined runway from the sand level to a door, the threshold of which opens into the central court. Under each filter there are drains for removing the filtered water. The drains are of vitrified pipe surrounded by concrete and are below the floors of the filters. They were put in before the construction of the filters was commenced. The water enters the drains through the joints in the pipe and is thence carried to the pure water pipe. The gravel surrounding the underdrains is of three grades. The coarsest grade of gravel was that which would not pass through holes one inch in diameter; the intermediate grade would not pass through holes three-eighths inch in diameter and the finest grade was retained by a screen with round holes three-sixteenths inch in diameter. The gravel is placed in the filters in the order indicated, the coarsest under in order to prevent clogging. In all, there are about four feet of gravel.

Most of the suspended matters in the unfiltered water are held by the top layer of sand and this layer is removed from time to time. Each filter has to be cleaned on an average of from twenty to forty days. To clean a filter requires the services of ten men a day and a half or 120 hours. It requires about sixty hours labor to wash the sand for one filter. After the water leaves the filters, it is carried to a pure water reservoir ninety-four feet square and holding about 600,000 gallons. The construction of the reservoir is similar to that of the filters. The filtered water is taken from the pure water reservoir to the present pumping station in Quackenbush Street. The pipe connecting the two is of steel plate five sixteenths inch in thickness, and four feet in diameter, and is laid under the Erie Canal the greater part of the distance. Each filter is capable of filtering 2,100,000 gallons in twenty-four hours and with one filter out of use for the purpose of being cleaned, seven filters normally in use, will yield 14,700,000 gallons in twenty-four hours. The entrances and outlets are all made of sufficient size so that rates fifty per cent greater than the foregoing is possible. The capacities of the intake, pumping station and piping are such as to supply any quantity of water which the filters can take up to an extreme maximum of 25,000,000 gallons in twenty-four hours.

At the pumping station in Quackenbush Street, there are three pumps, each capable of lifting 5,000,000 gallons in twenty-four hours. The water is pumped through rising mains to reservoirs holding 37,000,000 gallons. The scientific control is regarded as one of the essentials to the best results and to provide for this. There is a laboratory building at one end of the central court between the filters and close to the sedimentation basin supplied with the necessary equipments for full bacterial examination and also for facilities for observing the colors and turbidities of raw and filtered waters and for making such chemical examinations as may be necessary.

The filters were designed to remove from the water the bacteria which caused disease. The Superintendent of the plant, Mr. Bailey, in August last issued a report on the results of the plant for 319 days actual operation and I give his report verbatim: The number of gallons filtered was 3,817,200,000, or, on an average nearly of 12,000,000 gallons a day. This is the largest amount of water ever filtered by a single American filtration plant in so short a period. The cost of operating the filtering beds and care of the grounds has been one dollar and ninety-four cents a million gallons, and the cost of chemical and bacteriological work is thirty-four cents a million gallons. The cost of pumping is two dollars and forty-two cents million gallons. The efficiency in bacterial removal has been good. As regards its removal for the first three months of 1900, the average number of bacteria in the unfiltered water for the whole plant never fell below 200 in a cubic centimeter, reaching that figure on March 30, 1900. On April 2 and 6, respectively, when the bacteria in the raw water numbered 45,000 and 37,000 respectively, 99.07 per cent. of the total was removed.

The immediate and quick returns in the decrease of typhoid fever is as unusual as it is gratifying. There have been fewer cases of typhoid fever than there were deaths from this cause before. The location in Albany of one of the best hospitals in the State, which draws to it patients from a large and populous district, increases unduly the death rate for this city, by crediting to it the mortality of aliens. During the present year, typhoid fever in this city (had it not been for the filtering plant) would have been largely increased owing to the epidemic in Cohoes and Troy. This is shown unmistakably in the increased death rate from the disease in the city of Rensselaer, located directly across the river from Albany, and whose water supply is taken from the Hudson River. The average number of deaths from typhoid fever in this city for nine years up to 1899 was eighty-five in a year. From January, 1899 to August 1, when the city was using unfiltered water, there were seventy-one deaths from typhoid fever and from August 1, 1899 to January 1, 1900, or when filtered water was in use, there were only seven deaths from this disease. From January 1st of the present year up to July 1st (when this report was made) there were only nineteen deaths for the six months, or a total of twenty-four for the year against eighty-five, the average for the preceding nine years

It seems to me that the above figures prove conclusively that the Albany Filtration Plant as a means of diminishing the death rate from typhoid fever has been a grand success. I am aware that there has been quite a considerable increase in the number of cases of typhoid fever for the past two months. The following is a list of the number of cases reported, but not deaths for the year:

January	7	June	4
February	10	July	8
March	6	August	19
April	7	September	40
May	8		

Whatever the cause for this may be, I am convinced the cause is not from the filtered water. It may be from any one of several causes, for instance, many people have been away from the city during the summer and may have contracted the disease which did not develop until returning to the city. In my own practice, I have several cases of this disease among people who have been out of the city during the last month.

Again, a possible cause might be the milk used. Again in reference to the purity of the water, I would say that the chemist of the plant, Mr. L. M. Wachter, informed me on my last visit to the plant that the water had been running unusually pure for the past two or three months owing to the absence of freshets in the river. On that day the register showed 99.07 per cent. pure, and I think this is as pure as water anywhere will be found.

Number of cases of typhoid fever reported for the following years:

	1898	1899	1900
January . . .	77	67	7
Februray . . .	34	94	10
March . . .	27	127	6
April . . .	11	62	7
May . . .	3	24	8
June . . .	12	23	4
July . . .	40	31	8
August . . .	117	20	19
September . . .	57	25	40
October . . .	64	23	
November . . .	41	10	
December . . .	34	9	

The water from Rensselaer Lake reservoir is unfiltered water with a very large sedimentation. Tivoli is unfiltered water with moderate sedimentation. Bleeker reservior receives two-thirds filtered water by pumps and one-third Rensselaer Lake water by gravity. Prospect Hill ordinarily receives filtered water entirely. From Tivoli reservoir, owing to failure of streams, from about the first of May, have received a greater or less amount of mixed water from Bleeker reservoir.

THE INSANE IN GENERAL HOSPITALS.*

By J. M. MOSHER, M. D.,

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A half century before Pinel and Tuke's "reform in the treatment of the insane" the inhabitants of the Province of Pennsylvania petitioned their House of Representatives for a "small Provincial Hospital," for the relief of "Lunaticks or Persons distempered in Mind and deprived of their rational Faculties." It was not the first institution for the insane graced with the title of hospital, for Bethlem had been in existence several hundred years, and St. Luke's, also in London, was opened in 1751. Neither of these institutions, however, had shown any purpose to improve upon methods of care then almost universal, and in fact, they have often been cited as illustrations of the cruelties to which insane patients have been submitted.

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*Read at the Annual Meeting of the American Medico-Psychological Association, held at Richmond, Va., May 22-25, 1900.

The law adopted by the General Assembly of the Province of Pennsylvania, and approved by the Governor on the 11th of May, 1751, was entitled "An Act to encourage the establishing of an Hospital for the Relief of the Sick Poor of this Province, and for the Reception and Cure of Lunaticks," and provided for "collecting the Patients into one common provincial Hospital, properly disposed and appointed, where they may be comfortably subsisted, and their health taken care of at a small charge, and where by the Blessing of God on the Endeavours of skilful Physicians and Surgeons, their Diseases may be cured and removed." In the humanity and charity of its purpose, this law anticipated the efforts of Pinel and Tuke, and by its recognition of insanity as disease and the establishment of a hospital for treatment and cure, epitomized the principles whose general application has not yet been fully attained.

The accumulation of chronic cases, in which lies the essential difference between the care of the insane and the bodily sick and injured, soon presented a formidable obstacle to the development of the plan inaugurated in Pennsylvania. The disastrous effects of crowding acute and chronic cases upon the same wards, with the consequent subordination of remedial to custodial measures, the insufficiency of proper accommodations and the growth of the almshouse system, with the long struggle for the remedy of these evils, are matters of recent history, well known not only to members of this Association, but to the public at large. Provision for the insane in proper buildings under suitable sanitary conditions having been accomplished, the problem of the medical treatment of recoverable cases confronts us now, as it did the pioneer settlers of Pennsylvania a century and a half ago.

During this time insane patients, with the occasional exception of quiet and manageable persons, have been refused admission to general hospitals, because these institutions do not possess the power of detention or suitable accommodations.

The added experience of this period shows that the claims of two classes of insane patients—the acute and chronic—must be considered. For the latter, custodial care is required, affording accommodations consistent with home surroundings; for the former, active medical treatment looking to the restoration of health. Attempts at separate care of the acute cases have been premature and have failed, because, prior to the development of the large modern State hospital, its possibilities and limitations have not been revealed. It is advisable that provision for both these classes be made in the large public hospitals. An institution affording accommodations for one thousand or two thousand patients possesses resources in equipment and environment not to be obtained under any other known conditions. The development of the "acute hospital service," the features of which are now being rapidly evolved, points the way to results commensurate with expectation.

Hospitals for the insane, however, are not always available. The natural reluctance of patients and their friends to commitment often prevents this step until the disease has reached a stage at which the chances of recovery are jeopardized; a considerable class need skilled medical observation before the advisability of removal is determined; and many, especially drug and alcohol habitués, are in great measure irresponsible, but are not recognized by the law. With more manageable cases attempts at treatment are made at home, under unfavorable conditions, the physician yielding under the stress of necessity, and standing helplessly by, hoping against hope for some favorable turn of fortune. When home care is no longer possible, the unfortunate victim, in an outburst of violence or delirium, is hurried away to jail or some other convenient receptacle, his life in the balance, while precious time is consumed in judicial proceedings.

A statement of the abuses arising from this condition of affairs would present an appalling record. An insane woman gave birth to a child in jail her only attendant being the jailor, who wrapped the new-born babe in an old shirt; a physician, delirious from neglect and the decrepitude of old age, was locked in a cell, where he refused food, abused his person, and in a few days died; a maniacal patient, who was allowed to wander about until he developed a state of great mental confusion, was found in an interior, unventilated, unlighted cell, entirely stripped of clothing, the straw and dust of a dirty tick filling the air, and his body besmeared with excrement.

No effort has been made to collect data of this kind, and no hesitation is felt in presenting these incidents from a year's practice of the writer, for the experience is not local or unique, but illustrative of a practically universal condition.

In the light of such revelations, which concern recoverable cases, State care may be regarded as incomplete until existing necessities are supplemented by additional provision. To meet this want the erection of special hospitals or special pavilions in connection with general hospitals, has several times been suggested.* With the exception of the pavilion for the insane and emergency cases at Bellevue Hospital there is no intermediate provision of this kind in the United States.

The suggestion is about to be carried out in Albany by the erection of a pavilion in connection with the new Albany Hospital. Under the stimulus of the repeated abuses that occur in the disposition of acute cases, the physicians of Albany represented to the county supervisors the need of this building and have received a generous response in an appropriation of eighteen thousand dollars. The Albany Hospital is constructed upon the pavilion plan permitting the annexation of an additional building. The administration is to be in the hands of the Governors of the Hospital, as a part of the general organization, the county's rights being protected by agreement to care for its patients at rates conforming to those for other public patients. The plan of the new building, which owes its perfection to the suggestions of Dr. Chapin and Dr. Cowles, has been prepared by Mr. A. W. Fuller, Architect of the Hospital.

The design provides a two-story building, for separation of the sexes, connected with the main hospital by a corridor,

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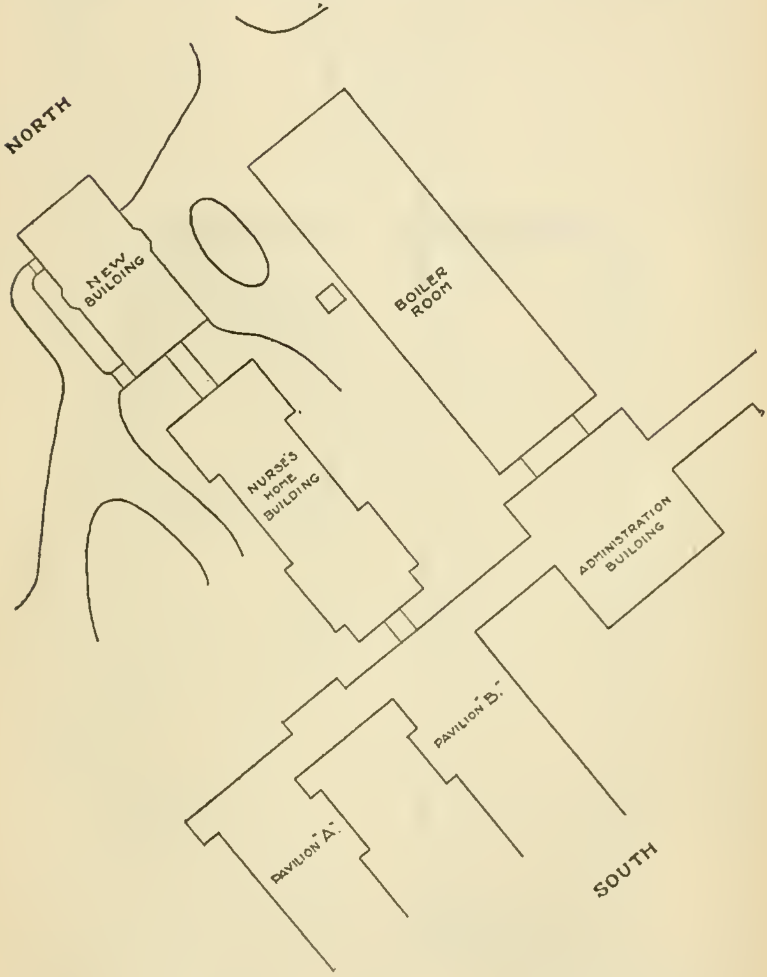
* HENRY M. HURD, "Presidential Address—The Teaching of Psychiatry," *American Journal of Insanity, October, 1899.*

FREDERICK PETERSON, "Some of the Problems of the Alienist," *American Journal of Insanity, July, 1899.*

To Illustrate Dr. Mosher's Article on "The Insane in General Hospitals."

Albany Medical Annals, December 1900.

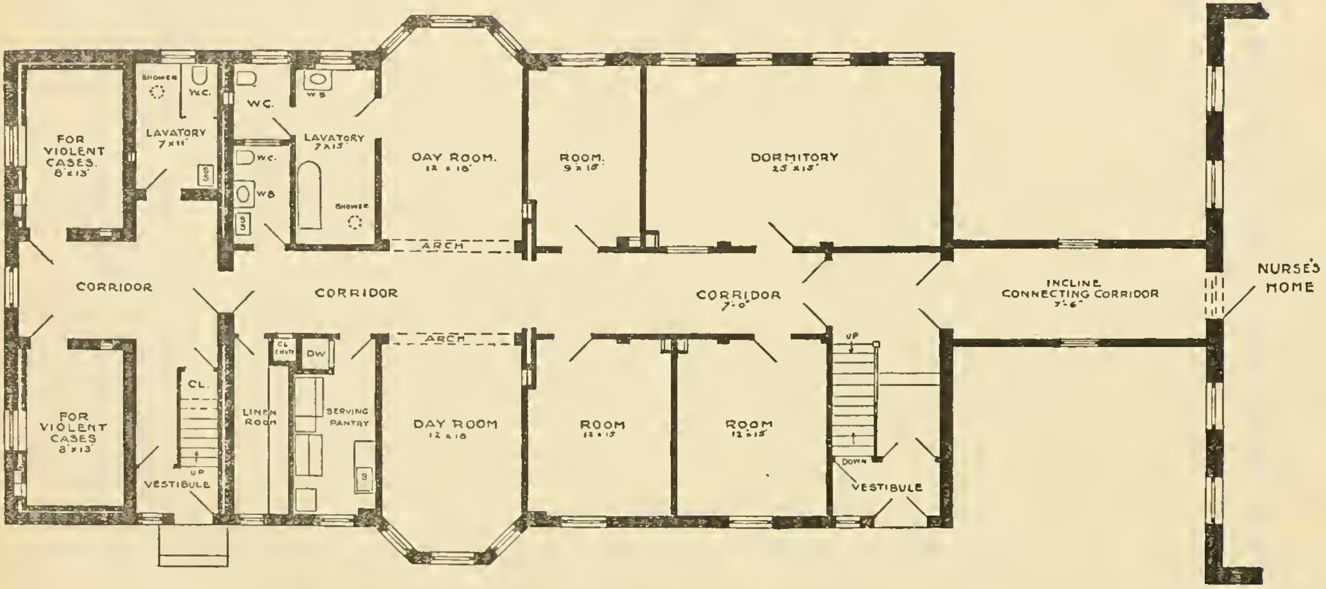


LOT PLAN

A.W. FULLER, } ARCHITECTS,
W.B. PITCHER } ALBANY, N.Y.

To Illustrate Dr. Mosher's Article on "The Insane in General Hospitals."

Albany Medical Annals, December 1900



FIRST FLOOR PLAN.

A.W. FULLER, W.B. PITCHER, ARCHITECTS. ALBANY, N.Y.

and conforming with the latter in architectural style. The outside dimensions are eighty by forty feet. From the main entrance to a large day-room, traversing the center of the building, sleeping rooms lie on either side of a corridor. This space provides for one single bed-room, 11 x 15; two single bed-rooms, 13 x 15; and an associate dormitory, 25 x 15. The day-room, with bow windows at either end, supplies ample cross light, and adjoins the service rooms, thus permitting complete distinction between the day and night habitation. Beyond the service room, sixteen feet of the distal end of the building is separated by a double brick partition. This gives a distinct section, with entrance and stairway, containing two bed-rooms and service rooms for the care of excited patients. The disturbing element is thus removed from the quieter class during the night by half the length of the building, with several intervening doors and walls. The location of the pavilion protects the city from noise, a result which might otherwise be attained by special disposition of the windows of this extension.

The scheme thus outlined represents the logical development of the modern idea of the demands of the insane. There is no precedent upon which to formulate a prophecy of the ultimate field of usefulness or results. It is anticipated that this pavilion will furnish (1) transient accommodations for insane patients committed to a State institution, and (2) for patients who need observation before the advisability of commitment to a State institution is determined; that it will be available (3) for mild cases of insanity who may recover in a general hospital, (4) for victims of drug addiction; and, lastly, as an emergency resort, will minister to (5) rapidly developing and critical cases of delirium, and (6) to the sudden and often dangerous forms of mental disorder which occur in the course of general diseases or after the shock of surgical operations and anaesthesia.

In this legitimate extension of its work the general hospital in no way conflicts with the institution for the insane but becomes an adjunct or integral factor. As a clearing-house, opportunities are offered for the discrimination and preparation of patients for the latter which should add greatly to its effectiveness.

In conclusion it may be said that with the adaptation of the facilities afforded by the general hospital, all claims of the insane may be met, and as conditions demand treatment may be had

(1) at home;
(2) in private institutions;
(3) in general hospitals:
    (a) in out-patient departments;
    (b) in specially arranged wards or pavilions;
(4) in hospitals for the insane:
    (a) in hospital structures for the active treatment of acute, recoverable cases;
    (b) in detached blocks or colonies for the custodial care of chronic cases.

APPENDICITIS.*

By CHARLES B. MALLERY, M. D.,
Aberdeen, S. D.

Our president asked me some months ago, to report a case of appendicitis which he saw with me, especially the technique of operation, but as we had no meeting in June, I have had time to pursue the subject further, and while I have nothing new to say, I hope the result of quite extensive research which I present, may prove interesting to the society.

My subject, Appendicitis, I define as follows: any and all inflammatory processes occuring in the right iliac region, which originate in the vermiform appendix, excluding from consideration in this paper, those cases of appendicular colic and fecal impaction in the cæcum, which are quickly relieved by laxatives and large enemas.

History. The history of the disease is intensely interesting, extending back to the time of Mestivier, who in 1757 reported a traumatic case, caused by a pin. Wegeler reported a case from fecal concretions in 1813. Dupuytren in 1820, described a case of large abscess, which he incised, obtaining nearly a quart of pus; Husson and Dance in 1827, under the name abscess of the right iliac fossa, gave an ideal account of the symptoms and course of the disease. The name perityphlitis, meaning inflammation around the blind gut, which is the result of, or a condition caused by appendicitis, was first proposed by Puchelt, in 1832.

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*Read before the Aberdeen District Medical Society, September, 20, 1900.

For forty-five years the disease was studied as a phlegmonous process, occuring in a region dangerous to life. The usual treatment was by opium, and the results were very gratifying to the undertakers. Handcock opened one of these abscesses in 1848, his patient lived and he became an advocate of surgical interference. Willard Parker in 1867 said that early operation, meaning on the circumscribed abscess, would save three out of four cases. H. B. Sands reported twenty cases of abscess in 1878, with a mortality of twenty per cent. With, in 1879, advocated the idea that suppurative cases always originate in the appendix. Dr. R. F. Noyse published the first series of one hundred operations in 1883, ninety per cent of which were performed in this country, and only fifteen per cent of which were fatal. H. B. Sands did the first appendicectomy, or operation before the formation of pus in the peritoneal cavity; this was in 1888. Many now can show lists of one hundred consecutive operations without a death, and J. B. Murphy said last month, "I believe it possible for any man to have a mortality of only two per cent if operated on in the first forty-eight hours."

From the above history two facts seem apparent: *first,* that from an alarming condition, first noticed in 1757, we have by study and observation, located the cause and applied the remedy; *second,* the credit for this is practically entirely due to the physicians of America, results worthy the followers of the immortal Sims.

Anatomy. The appendix itself is a peculiar organ, useless so far as we know, of varying size, from one-half to nine inches in length (in fact in one autopsy, Ferguson, there was none) and in diameter comparable to a seven to nine English scale catheter. The appendico-cæcal opening may be in health, as small as the head of a pin, and its lumen in twenty-five per cent of autopsies in adults, is wholly or completely obliterated in some part of its length. (This may be an inflammatory result, or the natural atrophy which occurs from non-use). Its position also varies, it being provided with its own mesentery. It is freely movable in health, but we find its junction with the cæcum in a comparatively permanent position, which corresponds to McBurney's point. The usual position of the body of the organ in health, however, is extending upward behind and perhaps a little to one or the other side of the cæcum. Its blood supply is very limited, the artery being a terminal branch of the ileo-colica, a branch of the superior mesenteric. In certain females there is a peritoneal process from the meso-appendix to the broad ligament, which contains a shall branch of the ovarian artery. This perhaps explains why the disease is less common in females. The appendix has a mucous lining, sparsely supplied with glands of the type of and continuous with the cæcum. Its muscular layer consists of circular and oblique fibres, the circular being much more numerous. Its sub-serous coat contains the nerves and lymphatics, which are numerous, also the few blood vessels. The peritoneal layer differs in no way from that surrounding the intestines. Gerlach's valve, a fold of mucous membrane, at its junction with the cæcum, seems to try to prevent entrance, but often fails, and when entered, presents almost the same resistance to exit. Finally, there is free communication with the various bacteria always present in the intestinal canal. These conditions offer an ever present nidus for inflammatory troubles, only awaiting an exciting cause, which may be furnished by a foreign body, a strain, or sudden change of temperature, but most often by some error of diet, badly prepared or hastily eaten food.

Pathology. From some of the above conditions, we find the begininng of the disease to be caused by retention in the appendix of some of the liquid contents of the intestine, and the lymphatics and blood vessels naturally absorb the fluids and the solids, gradually form a concretion, which enlarges, finally causes pressure, inflammation, coagulation necrosis, and the virulent bacteria infect the wound, and an abscess forms, first in the wall of the organ. This may discharge itself through Gerlach's valve into the cæcum, leaving an obstruction to the lumen of the organ, and resolution takes place. But in the majority of cases the inflammatory action proceeds and the various layers of the organ are perforated. If nature has had time, and the appendix lies in a favorable situation, an adhesive peritonitis will have surrounded the point of perforation, and a circumscribed peritonitis—a true perityphlitis ensues. This, like all abscesses, must enlarge and open somewhere, either again into the intestine, the condition in recurrent cases, or into the bladder, or under the skin somewhere below Poupart's ligament, into or alongside the rectum, or into the general peritoneal cavity, causing septic peritonitis. Or, by reason of the extent of the infection from the *bacilli coli communis,* the staphylococci and streptococci, we often see an acute fulminant type of the disease, beginning in the same way, but pursuing a rapid course through the periods of inflammation, gangrene and perforation of the walls of the organ, into the general peritoneal cavity, and death is a matter of hours, not days.

Causation. Climate, or time of year, has no effect so far as I know, on the frequency of the trouble. It is rare in children, but has been known as early as the seventh week, the number of cases rapidly increases up to the thirty-fifth year, which then decline in frequency, and become rare after the age of fifty.

Symptoms. The secondary results of this trouble are so serious, that it is necessary to make a prompt diagnosis. I believe this can be done in the first twenty-four hours, except perhaps in the very mild cases. We have *pain, vomiting, fever and tenderness.*

Pain is always severe at the beginning, usually of sudden onset, first referred to the region of the appendix, later to the umbilicus or just above. This pain has well been described as lancinating, tearing, worse on motion; in fact, we recognize at once, pain caused by a serous inflammatory trouble. It is somewhat paroxysmal, but continues without an entire let up, until perforation occurs. Then there is a short time of peace, and unless we are to have general peritonitis, it begins again as an ache, or sense of fullness or pressure,—a connective tissue pain. This continues until the abscess is drained,—somewhere.

Vomiting is practically a constant symptom, and gives by its recurrence a line on the rapidity and severity of the case.

Fever. A chill is not always noted at the onset, but the temperature rises with the progress of the disease, up to the time of perforation, when it often becomes sub-normal, to rise again with intermittent chills, if it becomes a case of perityphlitis, often remaining sub-normal until death, in cases of general peritoneal infection.

The *tenderness* leads me to palpation, by which we get the best idea of the condition. In appendicitis, the muscles of the walls of the abdomen are on guard, hard and resisting, protecting the tender and inflamed spot within. McBurney's point may or may not be especially tender, depending on the location of the appendix and of the inflammation in the organ. Percussion is very painful, and only gives a tympanitic note. In cases with very thin abdominal walls and in all cases under thorough anesthesia, the appendix can be palpated, and will be found hard, erectile, swollen and very tender. After perforation, the rigidity relaxes considerably and very soon an indurated mass, quite well defined, can be localized by percussion and palpation, and in slow cases, its growth can be watched from day to day, until it is evacuated, somewhere. The pulse is accelerated, ranging from ninety to one hundred and thirty. The bowels present no definite course, but are usually constipated after the first twenty-four hours. The urine is scanty, and later a catheter may be needed, which is due to reflex nerve irritation. With evacuation of the abscess into the bowels, a sudden subsidence of the alarming symptoms occurs, the patient sleeps, perspires and recovers, but there remains an indurated mass which is always a source of danger, in other words, a recurrent case.

Prognosis. The prognosis depends mostly on the severity of the infection, and the treatment employed. Some cases are mild, and resolve before perforation occurs. I can find no statistics of the frequency of this result. After the formation of abscess, without operation, the mortality runs from twenty-six per cent (Bamburger) to seventy-nine and eight-tenths per cent (Volz), or in 1,196 cases an average of over thirty per cent, and it is somewhat larger for children. And of the cases that recover, there remains always a probability of recurrence, for Fenger says "We must bear in mind, however, that even the smallest induration around the appendix or cæcum, is a source of constant danger, and that the greatest care in diet and regimen is necessary to avoid the possibility of rekindling the dormant inflammation, the renewal and extension of which may prove fatal at any time."

Treatment. As first advocated by With, I believe these cases always originate in the appendix, therefore my advice is at once begin preparations for operation. This at best will take some time. Not only patient, but room must be prepared; operator or assistants, or both, secured, and if it is one of the virulent attacks, or if we wish to operate as Murphy advises, before rupture of the appendix, there is no time to lose. At the same time high rectal injections, calomel, three grains, morphia hypodermatically, with ice locally, can be tried, hoping to empty the organ through Gerlach's valve into the cæcum, or to abort the inflammatory action, which I believe is sometimes done. Often these cases of milder type are not seen until after the circumscribed abscess is formed, still I advise operation as soon as possible, but we now have a much more serious condition, and from the statistics given, must expect a mortality of nearly eight per cent. And we often find, if operation is delayed, the appendix partially or entirely gangrenous, or forming a firm part of the abscess wall, and we have to leave it. (Fenger, McBurney, Bull, and Senn.) These cases also require drainage, and there is much more tendency to hernia.

Aspiration. "Noyes mentions seven cases, all of which recovered; but in five a subsequent incision was required later. One was aspirated through the rectum. As a curative measure, aspiration is not to be recommended." (Fenger.) The cases treated medicinally, that recover and relapse more and more frequently, should be operated on between the attacks. To illustrate: McBurney, last month, reported a case of many attacks during the past seven years, each attack lasting from two to four weeks. He says, "this patient has lost one year in seven by being incapacitated and confined in bed. By an operation he can be restored to health, and that, too, in the space of two weeks."

Operation. The operation can be described in the report of the case spoken of.

A. H. Male, aged 22, American. May 15, 1900, he came to my office; pulse, 110; temperature, 101 degrees; history of pain, vomiting, chill, of about sixteen hours duration. Palpation showed an inflamed and swollen appendix. I advised an immediate operation, but it was thought best to wait. May 16, growing worse, pain very severe. May 17, symptoms point to rupture of the appendix; pulse, 120; temperature, 99 degrees; much less pain. May 18,abscess located. May 20, prepared room, by removing curtains and carpet, walls and floor cleaned; water (artesian) boiled and filtered. Drainage, sutures and dressings prepared and sterilized. Operation, assisted by Drs. McNutt and Kennedy, and medical student Strong. Patient took ether badly; was shaved, scrubbed and washed with alcohol and ether. An incision, three inches long, was made in the line of the inguinal canal, and over McBurney's point, the muscles were separated, and the aponeurosis cut with scissors. The parietal peritonæum was inflamed and adherent to the intestines. The intestines were separated and disclosed an abscess behind and external to the cæcum. About two ounces of fetid pus escaped. The appendix was perforated and firmly attached to the external wall of the abscess; I could not remove it. I washed out the cavity thoroughly with salt solution, followed by peroxide of hydrogen. An iodoform gauze drain was inserted. The peritonæum and aponeurosis were closed with continuous cat-gut suture, four deep silk-worm-gut tention stitches, and silk skin stitches for coaptation. Iodoform gauze pads, and a many tailed bandage were applied.

There was immediate improvement in pulse and temperature. The drain was removed on the fourth day, a small stitch-hole abscess appeared on the eight; otherwise there was an uninterrupted recovery.

Had the appendix been accessible, I would have tied the meso-appendix with cat-gut, loosened and turned back the peritonæum, forming a cuff, removed the organ, cauterized the stump, and inverted it into the cæcum, covering it with the peritoneal cuff by means of the Lembert suture.

Editorial

THE ALBANY GUILD FOR THE CARE OF THE SICK POOR.

Special Obstetrical Department

The Guild has already become favorably known as a medical charity whose aim is to place the best professional nursing at the command of the poorest residents of Albany and give hospital treatment in homes whose occupants cannot avail themselves of hospital shelter and care. The managers have given another proof of their advanced methods of work in deciding to establish a Special Obstetrical Department for the benefit of women who are unable to pay for medical care before and during confinement. They announce that this new division is experimental—since its continuance is contingent on receiving necessary financial aid—but as it is undertaken with the co-operation of the Faculty of the Albany Medical College they feel that its success is already assured.

For some time members of the College Faculty have felt the need of some arrangement by which the students could have the benefit of practical work in obstetrics. Very few of the students have been able to attend even normal confinements before being graduated, there being no lying-in hospital in Albany as in other cities. The need of the student was apparent while the opportunity to supply that need was only awaiting development and organization. It is hoped that this problem is about to be solved by the Guild, this being practically the "out-door obstetrical department" desired by the Faculty for the training of their students. It is undertaken with reference to those cases only which ordinarily apply, or are referred to the Commissioner of Charities, and cases which have heretofore come under the care of mid-wives.

Briefly outlined, the plan is as follows:

The medical direction of the department will be under a staff of physicians consisting of the obstetrician in charge, three assistant-obstetricians and two consulting-obstetricians. Two students will be assigned for duty for a specified time, and the Guild nurses will be at the call of this department for needed service. All cases coming under the care of this department will be attended by the obstetrician in charge or one of the physicians appointed to assist him. Students from the Medical College will have the opportunity of observing such cases and of rendering assistance under the physician in charge, but will not have the entire responsibility of any case at the time of confinement.

The obstetrician appointed by the Guild will confer with the Senior nurse with reference to cases, will instruct his assistant-obstetricians as to their duties, will advise with the consulting-obstetricians in critical cases, and will make a monthly report to the Secretary of the Guild. The monthly record blanks have been arranged with headings to cover the following entries: source of reference; name, age and residence of patient; dates of application, confinement and dismissal; obstetrician or assistant-obstetrician; student and nurse in attendance; number of visits made by each; name, sex and weight of child. The Faculty of the Medical College have provided quarters in the college for the students during the time of assignment, have had a telephone placed for use in calling for their services and have instructed the janitor to give all needed aid.

It is expected that the students will pay fees for this course of training in practical work. These fees will go into the Guild treasury to be applied to the expenses of this department. The obstetricians appointed by the Guild receive no remuneration from any source for this special service.

All cases referred to this department will be cared for in their homes and are only such as would not under any circumstances be willing to go to a hospital.

This division is called a Special Obstetrical Department because limited by the foregoing rules. Physicians in general as heretofore are privileged to call upon the Guild for nurses for obstetrical as well as other departments of medicine and surgery.

At a meeting of the Executive Committee of the Guild, held on October 6th, the following appointments were made: consulting-obstetricians, Dr. James P. Boyd and Dr. G. Emory Lochner; obstetrician in charge, Dr. H. Judson Lipes; assistant obstetricians, Dr. Christian G. Hacker, Dr. H. L. K. Shaw and Dr. Edgar A. Vander Veer. All cases should be referred directly to Dr. H. Judson Lipes, No. 1184 Broadway.

State Medicine

Edited by Harry Seymour Pearse, M. D.

"Agin" Vaccination.—The *New York Times* of October 28th quotes the following from *The Nineteenth Century:*

"I sign against being vaccinated? Just what I'll do. It gives you a crying baby, even if it didn't cry before.

"Yes, with pleasure. I never took to it since I heard as how a neighbor—Mrs. Robinson that was—lost a child by it. Not that it died of it—but when it was born'd it was as healthy a child as ever I see'd—and so it was for a year after it was vaccinated; but after that, just a year, mind you, it began to pine and pine and never got on with its mother—Mrs. Robinson that was—nor the bottle, nor even they fancy foods (not that I ever held with they) nor nothing; and two years from being vaccinated that child took and died. Yes, I'll sign with pleasure."

Food for endless comment. This little illustration shows the value of petitions against vaccination. What legislator can fail to be impressed by the thousands of names enrolled in petition against vaccination laws, names representing intelligent and persecuted people, masses inoculated with disease through the vicious lymph or weighed down with the hardships of a sore arm, made so by an inspector with "authority"; impressed indeed, by the ignorance, erroneous ideas and superstitions of these thousands, their antagonism to legal control and by the too evident influence of the crank?

The anti-vaccination movement is undoubtedly gaining in strength. The enactment of a law in England two years ago doing away with compulsory vaccination indicates this. Each year our congress has to consider a bill against vaccination emanating from a deluded yet large class of people.

For a hundred years countless physicians, by following the teachings of the immortal Jenner, have saved innumerable lives. What a reflection upon the enlightenment of the present day, that the physicians, through their societies and organizations, should be compelled to fight that they may be permitted to save lives and work for the interests of humanity! The instinct of the physician is to prolong or save the human life in the face of obstacles, moral or physical. It is the pivot around which the thoughts and efforts of his life swing. It pervades every society and representative body of physicians. Why should he have to enter the political world that his instincts might live? The relation of the state to science does not explain it all, and in this particular instance—the revolt against vaccination—ingratitude and a false sense of oppression among the people are not insignificant elements.

Many physicians have felt that it would be a just retribution against the anti-vaccinationists and their followers to do away with vaccination and to let them witness, in a few years, some able-bodied epidemics of small-pox. It would be a lesson and who knows, perhaps the only way to bring them to a realizing sense of their mistake. But the morals and precepts of the teaching of the physician will not allow him to act according to such reasoning.

In Memoriam

HORACE TRACY HANKS, M. D.

Dr. Hanks died after a prolonged illness at his home in New York City, November 18, 1900. A complete biographical sketch will be published in a latter issue of the ANNALS.

ARTHUR THAYER ROBINSON, M. D.

Dr. Arthur T. Robinson died suddenly at his home in Mansfield, Mass., November 3d, 1900. His death was a terrible shock to everyone as he had seemed to be as well as ever the day previous. The doctor visited one of his patients about ten o'clock and retired about eleven apparently well. At three the next morning his bell rang but he did not answer and when his room was entered to wake him the Doctor was found unconscious. He could not be roused and died soon after. Apoplexy was the cause assigned.

Dr. Robinson was thirty-four years old and had practised in Mansfield but five years, yet he had enjoyed the respect of his patients in a peculiarly happy way. He was a man of good judgment, skilful, careful, and conscientious. His sympathetic, cheerful, reassuring manner won the love of his patients. He was very successful and his practice was increasing steadily.

Dr. Robinson was born in New Jersey and attended the public schools in Elizabeth. When he was fourteen his family moved to Monson, Mass. He attended the Academy there and graduated from that institution. In 1892 he entered the Albany Medical College and received his degree in 1895. He then opened an office in Mansfield, Mass.

Dr. Robinson was a member of the Beta chapter of Phi Sigma Kappa, the Masonic Order and the Odd Fellows.

E. N. K. M.

Medical News

Edited by H. Judson Lipes, M. D.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—A regular meeting of the Society was held November 14th, 1900, at Alumni Hall. The meeting was called to order at 8:50 p. m., the President, Dr. William Hailes, in the chair. The following members were present: Drs. Bartlett, Blessing, Blumer, Carroll, Case, Cook, Craig, Dawes, Elting, George, W. H., Hailes, Hale, W. S., Happel, Hinman, Hun, Jenkins, Le Brun, Lochner, Lomax, MacFarlane, Mereness, Moston, Richardson, Root, Shaw, Theisen, Thompson, Traver, Trego, Van Rensselaer, Wansboro, Ward, Washburne, Wiltse.. As visitors, were present Drs. Gordinier and Sitllman, of Troy, and Dr. Gorham, of Albany.

1. Reading of the minutes of the last meeting. Dr. WARD moved that as they had been printed they should be accepted as printed. Seconded; carried.

2. There were no minutes of special meetings.

3. Dr. D. H. COOK presented the name of Dr. FRED. CROUNSE for membership.

4. No reports or resolutions were presented.

5. Under the head of special communications Dr. MACFARLANE exhib-

ited a man with transposition of the viscera. He mentioned that the condition was particularly apt to occur in double monstrosities, one of them showing the normal and the other the inverse position of the viscera. He stated that, according to Gould and Pyle, cases had been reported as early as the sixteenth century. There were various theories as to the cause of the condition, the most common one being that the displacement was due to the position of the fœtus *in utero*. He then demonstrated the case, showing that the heart was on the right side, as was the spleen, and that the liver was on the left side.

Dr. ELTING then read his paper on "Osteitis Deformans, with a Report of a Case." Dr. Hailes then declared the paper open for discussion.

Dr. BLUMER stated that he had been interested in Dr. Elting's case as it was the third one of this condition which he had seen. In connection with the partial form of osteitis deformans attacking the bones of the skull, he reported an autopsy on a man with thickening of the bones of the skull and an enlargement of the pituitary similar to that seen in acromegalia.

Dr. SHAW then read his paper on "The Value of Antitoxine as a Prophylactic in Diphtheria."

Dr. HAILES declared the paper open for discussion.

Dr. HUN said that the paper had interested him very much. It brought forward strongly the proofs of the value of antitoxin. There were three epidemics in the Child's Hospital, which Dr. Shaw had not mentioned, in all of which the disease was arrested by the wholesale administration of antitoxin. He had seen no serious effects from the antitoxin. Occasionally a skin eruption had appeared. He thought that the case in which the bacilli were present in the ear discharge, and not in the mouth, and the case of the babe which had had a nasal discharge, without any bacteria in the mouth, were very interesting. The epidemic had shown the lack of susceptibility of the disease in very young babies. He thought the fact that so many of the children had bacteriological diphtheria and so few clinical diphtheria was due to the antitoxin which had been given some months previously. The only severe case occurred in a child who had not been immunized.

Dr THEISEN stated that he was particularly interested in Dr. Shaw's paper. He referred to the apparent lack of membrane in some cases of diphtheria, in children in whom the membrane was out of sight on the posterior surface of the tonsils. He referred to the experience in his own family, illustrating the efficacy of antitoxin. His little niece contracted the disease, and during the early stages, before the character of the trouble was suspected, she was kissed by his wife and his little boy. They were immediately immunized and did not develop any symptoms of diphtheria. He thought the reason why young babies so seldom contracted the disease was because they had no enlarged tonsils, or lymphoid tissue in the pharynx. Jacobi had called attention to the occurrence of diphtheria in children with large tonsils, in 1880. These tonsils should always be removed.

Dr. JENKINS spoke of the special value of antitoxin in intubation cases. He used to lose one case in three, and now, in his last twelve cases he had only lost two. He spoke of an attack of diphtheria in the case of his brother, who was a physician, and was exposed to the disease quite frequently. He was taken sick quite suddenly with delirium, with swelling of one tonsil, and for ten days was in a critical condition, his temperature being as high as 104° F. The nature of the trouble was not suspected until he developed post-nasal paralysis. He was then given antitoxin and the symptoms all disappeared within two days.

Dr. ROOT wished to emphasize not only the advantages of antitoxin but the responsibility resting on every practitioner to see that it was used in every case, and used early. He spoke of the fact that many throats with very slight changes show the Klebs-Loeffler bacilli, while many which look more serious do not show them. A culture should always be taken, but the physician should not wait in doubtful cases for the result of cultures, but should administer the antitoxin immediately. He thought that the reason why some cultures were negative was that the membrane was on the back of the tonsil and was not reached. He thought the paper carried conviction as to the value of antitoxin, the great advantage of using it in every case, and early in the disease.

Dr. BARTLETT stated that both papers had interested him very much. Dr. Elting's was one concerning a very rare disease, whilst Dr. Shaw's paper touched every general practitioner. He was glad to hear of the success attending the use of antitoxin. He was impressed with the idea that antitoxin prevented the outbreak of clinical diphtheria but did not prevent the presence of bacilli in the throat. He thought all cases should be tested bacteriologically at the close of the disease and that cases should be kept in quarantine until no bacteria were found in the throat. There was a very strong temptation to allow the children out, when they were apparently well, but the responsibility in this matter was very great, and the physician was under moral obligations to have cultures made at the close of the disease. This was especially important as these cases could transmit the disease to others.

Dr. MACFARLANE moved that any visitors present should be accorded the privilege of the floor. The motion was seconded and carried.

Dr. W. S. HALE reported a case illustrating the efficacy of antitoxin in which a boy, with a sudden, severe attack, made an excellent recovery after 2,000 units of the antitoxin were injected. The case was reported bacteriologically as not one of diphtheria. He spoke of another case in which the disease was more prolonged in which the antitoxin did not have such a beneficial effect. He thought it might not have been diphtheria.

Dr. COOK stated that as a general practitioner he had seen a large number of cases of diphtheria, and that since using antitoxin he had only lost one case. This boy, aged six years, became cyanotic after an injection of antitoxin, on the second day, but recovered only to again become cyanotic on the fourth day after a second injection and to die on the fourth night of the disease. Dr. Cook expressed the opinion that the antitoxin was the cause of the death. He reported other cases in which the antitoxin was administered with favorable results. He also stated his opinion that contagious diseases were not so severe at present as formerly. In looking over the records of the Board of Health for the past six years, during which he had been associated with it, he found that there were only one-half as many cases of contagious disease as for the previous six years. He thought that there was sometimes a tendency to give credit to the antitoxin when the case would have recovered without it.

Dr. LOMAX stated he would like to refer to Dr. Elting's case. Some years ago he thought he had a case of osteitis deformans in a female with epithelioma of the rectum. Both femurs were thickened and curved. She had irregularity in the bones. This, and the association of malignant disease, made him think of osteitis deformans. He had looked the subject up thoroughly at the time and thought that the disease was a neglected one. Most text-books dismissed the subject in a few words.

Dr. GORHAM stated that he had listened to both papers with much interest. He thought that Dr. Shaw's paper was most important. He thought that many patients were still averse to the use of antitoxin. He said that if he knew it would kill one out of twenty cases of diphtheria yet he would use it. He referred to a conversation he had had with a physician in the Boston City Hospital, who stated that the mortality in that institution had been reduced from 40 per cent to 12 per cent. They gave very large doses, as much as 8,000 units. His first two cases had been unfortunate but he did not allow that to discourage him and as a whole had had very favorable results.

Dr. BLUMER referred to Dr. Cook's case and suggested that the cause of death was diphtheria and not the antitoxin. It was well known that changes in the heart muscle and nervous system took place as early as the second day and after these had once occurred the antitoxin, of course, had no effect. He stated that in cases of autopsies performed on patients alleged to have died from the administration of antitoxin, no definite proof could be obtained that this was the cause of death.

Dr HAILES stated that he might report two cases of death following the use of antitoxin which he thought due to toxæmia and not to the antitoxin. There were certain points upon which stress must be laid in connection with this subject:—

1st. The early use of the antitoxin. He stated that he had records of 1.600 intubations and that many of these were greatly benefited by antitoxin.

2d. The short duration of immunity; if too small doses were given.

3d. The persistency of organisms in the throat, after recovery.

A motion to adjourn was then made, seconded and carried.

GEORGE BLUMER, *Secretary.*

WILLIAM HAILES, *President.*

ALBANY DEPARTMENT OF HEALTH: REPORT FOR OCTOBER.—Health Officer Joseph D. Craig, M. D., has submitted to the Mayor, as required by the new charter, the report of the Department of Health for the ten months from January to November, 1900. Dr. Craig has made an elaborate extract of the deaths occurring in the city and when published it will be of considerable value to the profession in their study of the cause of death. According to the report it is interesting to note that the death rate for Albany is constantly decreasing. In 1899 the death rate was 19.6 per thousand; for the first ten months of 1900, the death rate was 17.8 per thousand and for the month of October it was 16.9 per thousand. This decrease is attributed to several causes: first, to the diminished number of deaths from typhoid fever, second, to the diminished number of deaths from diphtheria on account of the use of antitoxin and third, from the care which the Commissioner of Public Works has given to the streets and catch basins of the city, endeavoring to make the appropriation go as far as possible in the interests of the public health. The death rate from consumption is still appalling. The number of deaths from consumption during the ten months was over 200. A very few of the cases had been reported to this department. It would be impossible for the Health Department to fumigate for tuberculosis without an increase of the office force, which is now working to its full capacity. It would seem as though the professional conscience ought to be aroused in an endeavor to limit at least the spread of this preventable disease, and one of the first steps should be the reporting of every case of tuberculosis.

The report of the Department of Health for the month of October, as far as vital statistics is concerned, has gone to the State Board of Health, as follows: Cholera Infantum, 4; Consumption, 14; Typhoid Fever, 5; Appendicitis, 1; Old Age, 8; Bright's Disease, 16; Scarlet Fever, 1; Pneumonia, 6; Apoplexy, 7; Diphtheria, 9; Cancer, 7; Accidents and Violence, 10; Premature Births, 2; Seventy years or over, 23; One year of age or under. 35; Albany City Hospital, 3 (2-1); St. Peter's Hospital, 6 (6-0); Homeœpathic Hospital, 4 (2-2); St. Margaret's House, 2; Albany County, 1 (0-1); House of Good Shepherd, 1 (1-0); Home for Incurables, 1 (1-0); Births, 76; Marriages, 72; Deaths, 144.

THE ALBANY GUILD FOR THE CARE OF THE SICK POOR: STATISTICS FOR OCTOBER, 1900.—Number of new cases, 75; of these 2 were dispensary cases receiving home care; 49 were district cases, and 24 were moderate income cases.

Classification of diseases: Medical 40, surgical 14, gynæcological 10, obstetrical 6 in the general work of the Guild and 5 in Special Obstetrical Department. This list includes 17 cases of diphtheria and one of tonsilitis. Number of visits with nursing treatment 826, for professional supervision of convalescents, 241; total number of visits for month, 1067. Cases were reported to the Guild by the City Physician, by all the Health Physicians and by sixteen other physicians.

Special Obstetrical Department: The monthly reports of this department will cover only completed cases. The number of new cases for the month, as reported above, includes also applicants who are under treatment during pregnancy. Summary: Number of patients in October, 3; two reported by Dr. Stevenson, Health Physician, and one by Sister Julia of St. Peter's parish. Obstetrician, Dr. H. Judson Lipes; number of calls, 12. Students in attendance, 3, number of calls, 17. Nurses in charge, 2, number of visits 21. One case, abortion, two normal; sex, female; weight, respectively, four and one-half and eight and one-half pounds.

THE SOUTH END DISPENSARY.—Drs. Willis G. MacDonald, Charles E. Davis, W. H. Happel, C. H. Richardson, T. L. Carroll, J. W. Wiltse, L. Le Brun and F. F. C. Van Allen, a majority of the directors of the Albany City Free Dispensary association, recently filed with the secretary of state a certificate changing the number of directors of the association from nine to twenty.

THE ALBANY HOSPITAL TRAINING SCHOOL FOR NURSES.—The third annual meeting of the Board of Patronesses of the Albany Hospital Training School for Nurses was held in the "Governor's Room" of the hospital on Monday, November 5, at three o'clock. There was a large attendance of the patronesses and managers, presided over by Mrs. William L. Learned, president of the board of managers. Mrs. Luther Tucker, secretary of the board, read the minutes of the previous annual meeting. Mrs. Selden, treasurer, presented the following report: Receipts—From Albany Hospital, $420 a month, $5,040; patronesses, annual dues, $1,140; private nursing, $1,239.74; entrance fees of four patronesses, $400; hospital part of bill, engraving plate, $50; Mrs. G. Y. Lansing, annual subscription, $26; total receipts, $7,889.74. Brought forward, $540.20—$8,429.94. Disbursements—Pay roll, salaries and wages, $7,660.60; engraving diplomas and stamps, etc., for graduates, $174.25; furnishing for nurses' home, $147.29; printing for secretary, $10.25; carpenter work in home and hospital, $52.56; redeposit of money borrowed from permanent fund, $500—$8,544.35. Excess of disbursements over receipts, $114.41, which begins the year with a deficit of $114.41 borrowed from patronesses' fees for the next year.

Miss Emily MacDonnell, superintendent of the training school, read the following report:

Ladies of the Board of Patronesses:

In presenting to you the fourth annual report of the training school, I have to state the steady progress of the school. In all directions our work has increased. Our staff at present consists of: Graduate nurses, 5; Pupils, 48; Probationers, 5. During the year there have been 186 applications for papers of admission; forty-one applicants have been received on probation; thirteen of these resigned or were not retained, and three of our pupils have resigned in order to marry. We still continue to send one pupil at a time to St. Margaret's House and the Child's Hospital. I have great pleasure in reporting the general excellent health of the school. Our sick list records but fifty-eight days' illness, and this includes the illness due to the general vaccination of the pupil nurses.

Eight hundred and thirty-nine and a half days of special nursing have been done by the pupils; 133½ of these days have been given free of charge. It is a pleasure to state that during the four years' history of the school a special nurse has never been refused to a poor patient when the gravity of the case has required this extra attention. On May 1 we graduated our first class of nurses, thirteen in number. There has been a steady demand for nurses both to fill hospital positions and for private cases. This demand on several occasions we have been unable to fill.

Mrs. George P. Hilton, Mrs. Frederick Townsend and Mrs. William L. Learned were re-elected managers. Mrs. Learned then gave an excellent review of the work of the school for the past four years.

WOMAN'S AUXILIARY OF THE ALBANY CITY HOMEOPATHIC HOSPITAL.—The women friends of the Albany City Homeœopathic Hospital and Dispensary met recently at the home of Mrs. William Gorham Rice, and organized a Woman's Auxiliary to the board of trustees, whose purpose shall be to aid the work of the hospital along such lines of effort as may be found practical. About twenty women responded to the call sent out by Mrs. Pruyn, Mrs. Rice and Mrs. Edward G. Cox, and the auxiliary was organized with the following officers: Mrs. Samuel L. Munson, president; Mrs. William Gorham Rice, vice-president; Mrs. Edward G. Cox, treasurer; Mrs. Richard Lord Annesley, secretary. Four chairmen of the following sub-committees were appointed, with the above officers forming the executive committee: basket committee, Miss Flora Brady; linen committee, Mrs. John E. McElroy; ward committee, Mrs. Henry Bronk; house committee, Mrs. Jacob Ten Eyck. The basket committee is an extension of work carried on during the summer by friends of the hospital, each woman of the committee being responsible for a basket of provisions, or its equivalent, $5, on successive weeks. The work of the auxiliary is to be modeled after that of the Rochester Homeopathic hospital, a large and handsome institution, whose executive management is entirely in the hands of women. Its president, Mrs. William Eastwood, is now in Albany, a delegate to the Federation of Woman's clubs. No financial duties or administration will be undertaken by the Auxiliary, its special province lying in the direct supplying of the practical needs of the institution.

THE ALBANY NURSES' DIRECTORY.—Previous to last year it was exceedingly difficult for physicians to secure trained nurses without much time lost in finding them. Through the efforts of A. B. Husted & Co., of this city, all available trained nurses, as well as many domestic nurses, were organized. The scheme has certainly been a successful one and it is very gratifying to physicians who frequently employ nurses to know that the nurses' directory will be continued another year. In this way physicians may ascertain at any time what nurses are not employed and the qualifications of each. It is the purpose to still further increase the efficiency of the directory and it will be arranged so that information can be given at night as well as by day. The success of this enterprise is due largely to the fact that the work is centralized and therefore any effort which is made to decentralize the registration of nurses in so small a city will result in demoralization and a return to the previous chaotic state.

THE SEPTEMBER BULLETIN OF THE NEW YORK STATE BOARD OF HEALTH.—DR. F. C. CURTIS in *The September Bulletin of the Board of Health* gives the following resumé for the month: "There were 800 fewer deaths this month than in the previous one, the urban death rate being 17.0 against 18.5 in August, the rural being 16.0 against 15.0 in August. The chief feature of the month is the large rural mortality from diarrhoeal diseases, only 970 of the 1,651 deaths occurring in towns of over 10,000 population or about 20 per 100,000 population for the month, the rural rate being 30. Of 960 deaths from diarrhœa (all outside New York City), 130 occurred above the age of 70 years, mostly rural deaths. Of 107 deaths from typhoid fever 12 were under ten years of age, 58 between ten and thirty years of age, 38 between thirty and fifty, and 4 were over fifty, 1 being at the age of eighty. Of all deaths there were 3,755 under five years of age, being 36.7 per cent. the maritime district having the highest relative infant mortality, 41.2 per cent.; the west-central the lowest, 26.0 per cent. Of 5,025 deaths outside New York City, 876 occurred above the age of seventy years, 17.4 per cent. The number of deaths attributed to old age was 420. The typhoid fever death rate was nearly the same in the urban as in the rural parts of the state. The mortality from it is a little above the normal; there is an unusual prevalence of it reported in numerous localities, but the type of it is milder than usual, the relative mortality so far as observed being less than has been customary. Zymotic diseases caused 22.0 per cent. of the mortality of the month, diarrhœal diseases causing 16.0 per cent., typhoid fever 2.4 per cent., and diphtheria 1.5 per cent. There were 300 more diarrhœal deaths than the average for the month, the proportion to the total mortality being lowest in the maritime, 12.3 per cent., and highest in the Adirondack, Southern tier, and Central districts, about 24.0 per cent. Consumption and acute respiratory diseases all have a mortality below the average, but digestive diseases had an excessive mortality. Outside the Metropolis there were 46 deaths from drowning and 3 from sun-stroke. There has been no small-pox in the state during the month. The weather was generally warm and dry, but there were areas where the opposite condition prevailed.

CELEBRATION OF THE FIFTIETH ANNIVERSARY OF THE TROY HOSPITAL.—Under the auspices of the Medical Staff of the Hospital, the Fiftieth Anniversary was appropriately celebrated on November 28th, at the Troy Club. Addresses were made by Dr. William Osler, of Baltimore, and Drs. William P. Mason and C. E. Nichols, of Troy. A reception to the speakers was held at the Troy Club.

TRANSFER OF INSANE CRIMINALS TO DANNEMORA.—A large number of insane criminals have been transferred from the Matteawan State Hospital, at Fishkill Landing, to the new hospital erected at Dannemora.

THE NEW YORK SKIN AND CANCER HOSPITAL.—The Governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a third series of clinical lectures on diseases of the skin in the out-patient department, commencing November 7th, 1900, at 4:15 o'clock. The course will be free to the medical profession..

GIFT OF DR. SENN.—Dr Nicholas Senn recently gave to Rush Medical College—which is now a part of the Chicago University—$50,000 which insures the beginning of a building project which will give the college the finest and best equipped structure for clinical work in the West. Architectually the structure will follow the Italian Renaissance. The recitation room and the dispensaries will occupy the first, second and third stories. They will be equipped with all the latest improved medical and surgical appliances. On the fourth floor will be the laboratories. Their equipment will be the finest and most modern. The fourth floor will be connected with the Presbyterian Hospital Building by a covered bridge. Two amphitheaters for clinical work, capable of seating one hundred and fifty students, will occupy the fifth floor.

AN AMERICAN PHYSICIAN IN THE ENGLISH HOUSE OF LORDS.—"That American medicine has been entitled until very recently to representation in the English House of Lords is evidently little known in this country since we find no allusion in our American Exchanges to the pretentions to that honor of the late Dr. Fairfax of Maryland," says the *Medical Standard* for November. Dr. Fairfax was the eleventh Baron Fairfax of Cameron in the peerage of Scotland. The only title by which he cared to be known was that of Doctor, which he held as a graduate in medicine of the University of Pennsylvania. The title, although the late peer never formally assumed it, was officially recognized by the court of Great Britain, and frequently letters bearing official seals, inviting Baron Fairfax to court functions, arrived at Northampton—his home in Prince George County, Maryland. He was born in Virginia in 1830 and in 1857 married the daughter of Colonel Kirby of the United States army. Lord Fairfax is succeeded by his son, the Hon. Albert Kirby Fairfax, who was born in 1870, and who resides in New York. It was from the Fairfax family's settlement in America that Thackeray drew the inspiration for "The Virginians."

OBITUARY.—DR. EDWARD R. SQUIBB, who died recently at the age of eighty-one years in Brooklyn, began his medical career as a surgeon in the United States Navy. He was best known for his scientific knowledge and skill in the manufacture of pharmaceutical preparation. His laboratories in Brooklyn have served for nearly half a century as models for all others.

—DR. M. J. GRIER, of Philadelphia, one of the pioneer specialists in nervous diseases, died October 28th, aged sixty-three years. He was one of the first physicians to apply electricity as a remedy for nerve ailments.

—DR. LEWIS A. SAYRE, whose contributions to orthopedic surgery have given him a world-wide reputation, died at his residence in New York City, Sepember 21, at the age of eighty years. Dr. Sayre was one of the founders of the Bellevue Hospital Medical College, also of the New York Academy of Medicine, the New York Pathological Society and the American Medical Association.

—DR. ALFRED STILLÉ died at his residence in Philadelphia, September 21, at the age of eight-one years. Dr. Stillé at the time of his death was Professor emeritus in the University of Pennsylvania.

PERSONAL.—Dr. F. M. BOYCE, (A. M. C. '72), has been re-elected for State Senator of the 30th Senatorial District. Dr. Boyce resides at Schodack, N. Y.

MARRIED: EASTMAN-WEBBER. At Waterville, Maine, October the thirty-first, Dr. N. L. Eastman, (A. M. C. '86), of Albany, and Miss Ellen B. Webber, of Waterville.

—BEILBY-SNYDER. At Albany, N. Y., October the thirty-first, Dr. George Everett Beilby, (A. M. C. '99), and Miss Mary Gertrude Snyder. Dr. Beilby is now chief of the department of health and sanitation of the State Industrial School at Rochester, where, after a brief Canadian trip, Dr. and Mrs. Beilby will reside.

—HOWD-POWERS. At Watervliet, N. Y., October the third, Dr. Emmett Howd, (A. M. C. '98), of Troy, N. Y., and Miss Sarah Elizabeth Powers, of Watervliet.

—HACKER-PENNY. At Gloversville, N. Y., November the twenty-eighth, Dr. Christian G. Hacker, (A. M. C. '99), of Albany, and Miss Ethel H. Penny, of Gloversville.

—TROIDLE-DORN. At Albany, N. Y., October the ninth, Dr. Benno George Troidle, (A. M. C. '98), of Albany, and Miss Marie I. Dorn.

—BORN, November 16th, 1900, to Dr. and Mrs. George C. Merriman, (A. M. C. '97), a daughter.

Current Medical Literature

SURGERY

Edited by A. Vander Veer, M. D.

Unusually Large Urinary Calculus.— DELORE in the *Gazette des Hopitaux*, for *March 13th*, 1900, reports the case of a man of over sixty who had presented symptoms of stone since childhood. On several occasions he had had attacks of retention and for some months had had pea rineal fistula. Finally a few days before he was seen by Delore he began to have a discharge of urine from the umbilicus. He died a few days later, the autopsy revealing a stone with cystitis and perforation of the bladder with infiltration of the urine into the superitoneal tissues and a secondary perforation through the umbilicus. The chief interest centered in the size of the stone which was 14 c. m. in length and 8 c. m. in diameter. It weighed three hundred and ten grammes (just about ten ounces). Chemical examination showed it to be composed of oxalate of lime.

Nerve Stretching in Raynaud's Disease and Gangrene.—R. DE BOVIS in the *Gazette des Hopitaux* for *February 8th, 1900*, reports a case of Raynaud's disease and one of gangrene of the extremities in which the therapeutic measures employed consisted in an elongation of the nerves supplying the affected parts. The case of Raynaud's disease occurred in a woman of forty-nine, and was a typical case of a slight degree, there being coldness and numbness of the hands with tropic disturbances in the form of small ulcers about the nails. The operation consisted in the exposure and stretching of the median and cubital nerves on each side immediately above the wrist. The patient improved gradually, and finally entirely recovered so far as the trophic ulcers were concerned. There was also a disappearance of excessive sweating of the hands which had likewise been present. The disturbances of sensation were uninfluenced by the operation.

The second case was that of a young man with gangrene of the foot and a definite specific history. In this case the anterior and posterior tibial nerves were stretched, but the result was entirely negative, and a subsequent amputation had to be resorted to.

The writer reports several cases in which this procedure of nerve stretching has been used in similar cases—sometimes with success—sometimes with failure.

Injuries to the Bladder Mucosa Caused by Contusions of the Lower Abdominal Regions.—J. SCHNITZLER in *Wiener medizinische Wochenschrift, March* 3, 1900, has an interesting article on this subject. The following case is reported. A shoemaker's apprentice, fifteen years of age, was brought to the surgical department of the Franz Joseph Hospital in Vienna, with the history of a frequent desire to urinate for a week. Urine contained considerable blood. There was some pain always when passing urine and occasionally spontaneous pain in the lower abdominal region. Pressure over the bladder region caused great pain. Patient stated that he had noticed the trouble since dragging a heavy hand wagon. The strap was fastened around the abdomen. Since then he had had the pain and hæmaturia. The urine contained a good deal of blood, otherwise the examination was negative. Cystoscopy showed several blood clots on the bladder floor; on the anterior walls there were two small depressions, partially covered with blood clots, their edges being the torn mucous membrane. Bladder otherwise normal. No local treatment was applied, patient being simply kept in bed, and in about eight days the hæmaturia stopped. Cystoscopy several weeks after the first examination showed a normal condition with the exception of two pigmented spots where the erosions had been. Author also reports a case of Zuckerkandl's in which the hæmaturia came on after the patient had attempted to get something from the bottom of a large cask. The edge of the cask had pressed sharply against his abdomen. Zuckerkandl did not state what the cause of the hæmorrhage into the bladder wall was. The author thinks that in both cases the cause was undoubtedly the severe pressure of the comparatively sharp objects against a distended bladder. The determination by cystoscopy of the traumatic nature of such cases of vesical hæmaturia is of great importance from a medico-legal standpoint. They are merely accidents occurring during the usual work of the employee, and would give no ground for damage suits.

Epithelioma of the Penis. Removal of the Entire Penis, Scrotum and Testicles.—Grant Andrew in *Glasgow Medical Journal, February, 1900,* reports a case. The first operation consisted of amputation of the organ in its posterior half. The circular method was employed, the urethra being divided three-quarters of an inch in front, slit up and stitched to the tissue around. No attempt was made to cover the divided corpora cavernosa, owing to the septic condition of the parts. Examination of the removed portion showed it to consist of tightly compressed epithelial elements, taking entirely the place of the normal tissue of the glans penis. Nodules of typical epithelial form were found, containing laminated capsules, in the proximal portion of the penis in the corpus spongiosum. In the second operation the remains of the penis down to its attachment to the pubic arch, the entire scrotum and the testicles were removed. The urethra was brought out in the perineum, fully an inch exposed, slit up and stitched to the surrounding skin. The patient made a good recovery and had no further difficulty in passing urine. The wound healed entirely.

MEDICINE

Edited by Samuel B. Ward, M. D.

Progress of a Case of Phthisis at a Very High Altitude.—By Dr. Maurice Kahn. (*Philadelphia Medical Journal, December 23, 1899.*) The author does not claim that the case reported has any particular distinguishing features, nor that its progress is unusual. The propriety of its publication is based solely on its being at variance, in its development, with the usual theories concerning the climatic treatment of tuberculosis. The history is of a man, 31 years old, married, blacksmith; father died of tuberculosis. In '89 he had a hemorrhage, supposedly from the stomach, as it probably was, since it is said to have been very dark in color, clotted, and was vomited. He applied at the out patient department of the Massachusetts General Hospital for treatment in June, '93, at which time he gave a history of cough, expectoration and hemorrhages. According to the reports of the hospital and those of Dr. Cutler of Waltham, Mass., there was then slight dulness in left subclavicular fossa, where, near the sternum, subcrepitant rales were heard. From June to October, '93, he had, for a week at a time, daily hemorrhages of bright red, frothy blood, and would then be comfortable for a week; when the cycle would be rehearsed. During this time he had distressing cough, profuse expectoration, and considerable pain in the left chest. No night-sweats, no loss of weight, but considerable weakness. Occasionally ceased work to recuperate. In October he left Massachusetts for Denver, and remained a month. During the following year, he went from place to place, in Colorado, seeking employment, finally locating in Leadville, where he still lives.

The Internal Secretion of the Kidney. — CHATIN AND GUINARD in the *Archives de médecine experimentale* for *Marh*, 1900, give a thorough review of the literature on this subject, and also give the results of some experiments of their own. The supposition that the kidney possessed an internal secretion was brought forward by Brown-Sequard in 1889. He founded his belief upon clinical facts and experimental researches. Since his time the extract of kidney substance has been used in certain forms of kidney disease, and arguments drawn from therapeutics can also be brought to support the theory of the internal secretion. The arguments in favor of an internal secretion of the kidney from a clinical standpoint are more or less of a negative character, and consist in the observation made by several authors that anuria may persist for a considerable number of days without the death of the individual.

Fereol has reported a case where anuria existed for eight days without any untoward symptoms except a slight slowing of the pulse, a decrease in the temperature and dilatation of the pupils. Brown-Sequard believed from these facts that the kidney possessed an internal secretion, and that the suppression of the secretion played a large part in uremia. From these results he held that uremia was not due to mere suppression of the urine but was also due to the suppression of this internal secretion. The arguments drawn from experimentation depend upon the effect of administration of kidney extract to animals whose ureters have been tied so that they are in a uremic condition. According to a number of authors the life of such animals can be specifically prolonged by their inoculation with kidney extract or defibrinated blood from the renal vein. Kidney extract has been used in the human being by a number of different authors usually in cases of chronic nephritis. A number of these authors, in fact most of them claim that under this treatment the amount of albumen in the urine markedly decreases, and at the same time the toxicity of the urine is markedly increased.

The experiments of Chatin and Guinard consisted in removing the kidneys from animals and then inoculating them with blood serum obtained from the blood of the renal vein of other animals. The results of these experiments were entirely negative. If anything the animals died a little more rapidly if the blood serum was used. The authors state that these results are almost diametrically opposed to those of most observers, but suggest that this is perhaps due to the fact that other observers used kidney extract or defibrinated blood from the renal vein, and not the blood serum.

Electricity as a Treatment of Tuberculosis.—DONNER in the *Gaz. de Hop.*, *March* 6, 1900, gives the results of the study of the action of currents of high frequence and high tension on cases of pulmonary tuberculosis. The method of treatment consists in submitting the patient to the current from a powerful battery (Static?) over the portion of the chest corresponding to the lung lesion. This is done once daily or at times only three times weekly for from five to twelve minutes. The author has used the treatment in seventeen cases mostly in the early stages of the disease and with beneficial results. The first effect is to stop the night sweats, the fever, then the cough and expectoration are benefitted and finally the general health improves. He reports that five of his seventeen cases have remained well for two years and only two of them have remained stationary.

South Africa: its Predominant Diseases and Health Conditions.— Kolle in *Deutsche med. Wochenschr., February* 1, 1900. Report of an address given at the Berlin Medical Society. The author first gives a short historical sketch of South Africa. The original inhabitants were Hottentots and Bushmen. In 1580 the colonization was started by the Holland-Indian Society and as a result the country was gradually settled by the Dutch as far as the Zambesi. The sale of the Dutch colony to England was the beginning of the racial struggle which in the author's opinion has also caused the present war. The proportion of white to black inhabitants is one to six. Generally speaking South Africa may be considered to be the healthiest country in the world as proved by the very rapid increase of the white settlers. One of the weakest points in the hygiene is the lack of good water, which accounts for much of the sickness. Typhoid is very severe when it occurs. Over 100,000 doses of typhoid antitoxin were sent to South Africa for the English troops. Dysentery is very prevalent among the soldiers. There is also a good deal of malaria in South Africa. As far as the question of the spreading of malaria by mosquitos is concerned, the author states that the regions in which the great numbers of mosquitos constitute a veritable plague, are practically free of malaria. Other diseases such as the plague, yellow fever, and cholera have not gained a firm footing. The health authorities have taken special precautions to prevent the entrance of the plague, in that the rats are prevented from getting ashore from vessels coming into the ports. Among the blacks, the diseases that are most fatal are first, scurvy, and second, syphilis, which take on very severe forms. Tuberculosis is practically unknown both among the whites and native blacks. On the other hand leprosy is almost epidemic. There are from 8,000 to 10,000 lepers in South Africa. Cecil Rhodes has erected a sanatorium in Kimberley for the treatment of tuberculosis, which accommodates 200 patients. Pneumonia is very fatal among the negroes because they are all alcoholics. The main cause of the mortality among the negroes is the artificial feeding of their children. On the other hand the Boer women nurse their children, which accounts for the tremendous increase in the number of Boers. In 1848 there were between 3,000 and 4,000, and at the present time there are nearly 400,000. The Boers are specially blessed with children, from twelve to twenty-four in a family being not at all uncommon. Anthrax is a common disease among the horses, as is the cattle plague among the cattle herds. The herds of cattle in South Africa are estimated to be worth 900,000,000 marks. Kolle introduced the serum therapy, with which up to the present time one and one-half million head of cattle have been rendered immune.

NEUROLOGY

Edited by Henry Hun, M. D.

Case of Partial Congenital Myotonia.—GAUPP (*Centralb. f. Nervenh. u. Psychiatrie, 1900, February.*) Under the title of Thomsen's disease, or myotonia, has been understood a congenital or family affection, of which the following are the chief symptoms: the so-called myotonic motor disturbance of the voluntary muscles, the electrical myotonic reaction, hypertrophy of the muscles, the increase of the mechanical irritability of the muscles. In recent observations variations of these symptoms and certain deviations have been recognized, so that a wider genera conception of the disease obtains. The family feature frequently is wanting; the disturbance is occasionally limited to certain muscles, and does not attack the entire muscular system; in particular cases an association with gastric dilatation has been found; the hypertrophy of the muscles is not invariable, as combination of myotonia with muscular atrophy and the reaction of degeneration have been observed. Eulenburg has described under the title paramyotonia congenita, an anomalous form of myotonia, in which the tonic muscular spasms appear only upon subjection to cold. There have also been described cases of myotonia, which are closely related to tetany, in that a prolonged tonic spasm appears spontaneously.

The author's patient was a man of thirty-nine years, who presented some defects of development described as "infantilism." There was no gastric disturbance. The musculature of the upper extremities was relatively less developed than that of the lower, though the patient was spare. The myotonic motor disturbance existed only in the forearms and hands, and was entirely wanting in the head, neck, trunk, shoulder and lower extremities. It was plainest on the flexor of the hands and fingers. If the patient held the fist closed, and was instructed to extend the fingers, this extension would take place very gradually, and after several seconds. It would be possible to see plainly the persistence of the contraction in the flexors, which would be gradually overcome. By frequent repetition of the same movement the regidity of the muscles would gradually diminish, but after a rest, it wôuld return; and cold had the same influence in inducing the condition. The small muscles of the hands showed the myotonic condition, in slight degree also the flexors and extensors of the elbow joint, in the shoulder muscles it was entirely wanting. The mechanical irritability of the muscles was not perceptibly increased. No hypertrophy, no tetany, no neuritis. The electrical examination gave the myotonic reaction in both arms, and even in the muscles of the arm, which did not show the myotonic reaction, e. g., the deltoid; on other parts the electrical reactions were fully normal. The myotonic reaction in the highly atrophied muscles (triceps, intrinsic muscles of the hand) were as plain as on the flexors and extensors of the fingers. The faradic excitability of the nerves was intact; with strong currents tonic contraction of the muscles persisted. Undulation was only noticeable in the flexors of the fingers. The galvanic excitability of the nerves was not altered. The direct galvanic excitability of the muscles was intensified, so that ASZ=KSZ; a slow tonic contraction persisting. The myotonic symptom-complex and the progressive atrophy of the musculature appeared to be grafted upon a congenital bodily weakness.

The Electrical Excitability in Infancy and in Tetany.—LUDWIG MANN (*Monatss. f. Psych. u. Neurol., January, 1900*) seized the opportunity afforded by an epidemic of tetany in the Royal Children's Hospital in Breslau, to investigate thoroughly the electrical conditions presented, and made comparison of these with the results obtained in healthy infants. It was found that the increased resistence of infants extended to the seventh week, instead of to the fifth, as has been asserted by other authorities. The reactions were limited to tests upon the median nerve, as it was found after some experimentation that researches upon other nerves were not necessary, the results with the median being conclusive. Of fifty-six children, varying in age from ten days to thirty months, healthy, or supposed to be free from tetany, the responses were fairly similar except in four cases. In three of these there was a marked degree of wasting with gastro-intestinal symptoms, and the fourth appeared well-nourished and in good general condition. In the last, the reactions of several months later were normal.

The author concludes:

1. For determination of the increase of excitability in tetany, the examination of one nerve, the median, is sufficient.
2. If the cathodal closure contraction of the median be perceptibly under seven-tenths of a milliampere, increased excitability is present. If it be over this, increased excitability may exist, although in such case the cathodal closure reaction is not conclusive.
3. Increase of the electrical excitability is definitely determined by the results of the cathodal opening. In all cases of tetany this occurs with a current of less than five milliamperes (generally very much below this), although in normal conditions a much greater current strength to elicit this reaction is required.
4. Although in normal conditions the anodal closure contraction prevails over the anodal opening, in tetany the latter may be equal to or greater than the former; or, at all events, the difference between the two is much less pronounced than in health.
5. Presence of the cathodal closing tetanus is a very unreliable sign of increased electrical excitability.
6. Faradic measurements in tetany show an average of greater excitability, which is generally outspoken, but it is not always easy to determine this.
7. Increase of electrical excitability may be observed in all cases of tetany, and there are grounds for the opinion that cases occur in which this change is the only evidence of the disease.

Spinal Cord Changes in Cases of Cerebral Tumor.—BATTEN and COLLIER (*Brain, Winter, 1899*) noticed while examining the spinal cords from patients who died of cerebral tumor, that a considerable amount of degeneration in the posterior columns became apparent. Fifteen cases showing this lesion are described in the literature, and various reasons have been given which the authors recapitulate as follows:

(1) A toxic agent. (*a*) Produced by the tumor itself. (*b*) Secondary to the anæmia and cachexia resulting from the tumor.

(2) Increased pressure in the cerebro-spinal canal.

(3) Venous stasis, anæmia, thrombosis of the spinal vessels secondary to the increased pressure.

(4) Retrograde degeneration.

Twenty-nine cases were examined by the authors, and experimental investigations upon the effects of increased pressure within the cerebrospinal axis were undertaken. Fluid was injected into the ventricles under a pressure of a column of water two feet high, and as the arachnoid became distended it was seen that the spinal roots which, under normal conditions, lie close to the cord and pass in a nearly straight line from their point of exit on the dorsal side of the cord to their point of passage through the theca, were carried away by the cord owing to their attachments to the arachnoid, and formed a bow instead of a straight line.

The investigations are summarized as follows:

(1) Degeneration of the posterior columns of the spinal cord frequently occurs in cases of intra-cranial tumor, i. e., about sixty-five per cent.

(2) Such degeneration is more liable to affect the spinal cord in the cervical region than in the dorsal or lumbar regions, and is more marked in the postero-external than in the postero-internal columns.

(3) Such degeneration is of root origin, and arises from the point where the root enters the spinal cord; the posterior roots are always less affected than the posterior columns, and may show no degeneration.

(4) Such degeneration is due to traction on the posterior roots by the distension of the arachnoid, owing to the increased intra-cranial pressure, and especially such as tends to rapid dilatation of the ventricles and the sebarachnoid space in the spinal cord.

(5) Such degeneration is independent both of the situation and of the nature of the tumor, except in so far as their liability to give rise to the preceding condition is concerned.

(6) Optic neuritis bears no relation to the occurrence of posterior degeneration.

(7) Absence of the knee-jerks (except in the semi-comatose state) indicates posterior degeneration, but their presence does not negative such a condition, and absence of the arm-jerks has the same significance.

(8) Degeneration may occur in the direct cerebellar tract; such degeneration being directly due to pressure on the cervical region of the cord.

OPHTHALMOLOGY

Edited by C. M. Culver, M. D.

The Operative Treatment of Glaucoma.—In Knapp's *Archives of Ophthalmology* for *January, 1900*, are reported Dr. KERN's ideas on this subject, as he stated them in his article before the Ninth International Ophthalmological Congress, held at Utrecht, in August, 1899.

The author believes that we are justified in operating on every case of glaucoma in which there is the slightest chance of success, because it is known that both acute and chronic glaucoma, without treatment, surely leads to blindness. It is granted that the value of iridectomy in chronic glaucoma is questionable, and many operators abstain from operative interference in these cases. In acute glaucoma the value of iridectomy is unquestionable, and if iridectomy is not efficacious, the valuable operation of sclerotomy remains. The author believes that all cases of chronic glaucoma in which the eye is not already blind should be treated like the acute cases.

By glaucoma the author understands an increase of tension in the posterior segment of the ball, and a proof of the correctness of this view he holds to be the fact that the anterior chamber does not take part in the increase, but the depth of the anterior chamber is, on the contrary, diminished by the pushing forward of the lens. The therapeutic indication is to establish a communication between the vitreous and the anterior chamber, which an iridectomy accomplishes.

If the iridectomy which is first made in every case of glaucoma does not have the desired result, the author proceeds as follows: A Graefe knife is entered through the cornea 2 *mm.* from its margin and in front of the coloboma, and the point passed above the lens back into the vitreous chamber and slightly turned before withdrawal in order to secure as free a communication as possible between the vitreous chamber and the anterior chamber. In some cases the operation leads to cataract, and extraction is required later.

The author's statistics are as follows: In thirty-foor per cent. of glaucoma cases, permanent recovery after iridectomy; in 20 per cent. improvement lasting one to three years; in 10 per cent., recovery after the author's "antero-posterior sclerotomy," in the remaining thirty-six per cent. a final blindness in spite of every possible method of treatment.

Blindness from Sympathetic Ophthalmitis. Restoration of Vision by Critchett's Operation.—G. E. DE SCHWEINITZ, in the *Ophthalmic Record for February, 1900.* It is generally understood that during the progress of sympathetic ophthalmitis, operations are not advisable. Critchett advocates that, when the eye has become quiet, and inflammatory symptoms have ceased, an operation be done which consists in introducing a fine cutting needle through the cornea, its point being directed to the centre of the capsule. The capsule is penetrated by making a rapid, rotary movement, as with a gimlet. A second needle is introduced through the opposite side and the points of the two needles separated from each other, the result being a rent in the centre of the capsule, and the escape of the soft lens matter. This operation must be repeated at proper intervals until a clear pupil has been obtained.

DeSchweinitz reports the case of a man 53 years old, admitted to the ophthalmic wards of the Philadelphia Hospital, the 17th of August, 1898. Nothing peculiar about his general history except that he used tobacco excessively. In March, 1898, his left eye had been injured by a stroke from a walking stick. He remained one night in the Polyclinic Hospital, then resumed work, occasionally visiting the Howard Hospital, also the office of an eye surgeon for treatment, which he seems not to have followed regularly. About two months after the injury of the left eye, sympathy began in the right, which, according to patient's statement, became red as if from a cold.

He was advised "to have an operation" (probably enucleation), but declined. He then went to the Homœopathic Hospital, where he was admitted and treated for three months, and where his left eye was enucleated. When admitted to the Philadelphia Hospital, there was a condition of typical irido-cyclitis and secondary cataract, the eye being still much injected. Vision then amounted to seeing movements of the hand. Under treatment, the inflammation subsided, and by October 29th, 1898, vision had risen to counting fingers at two feet.

November 3, 1898, a slight operation was done on the stump of the left eye, but no operation was uttempted on the right until the 4th of January, 1899, when an iridectomy was done upward and slighty outward. This coloboma soon closed and its position could be only surmised by a somewhat irregular scar-line. Vision now amounted to seeing hand movements; good light field. General medical treatment—iron, quinine, arsenic, and at times mercury, with atropin and scopolamin locally—was continued until June 26th, 1899, when Doctor Veasey, temporarily in charge of the wards, attempted irido-cystectomy, which was somewhat more successful than the original iridectomy, for, although the incision closed, a small area of lens-surface, 1 mm. by two remained uncovered by adherent iris. This space permitted performance of a modification of Critchett's operation, which De Schweinitz did as follows, December 6th, 1899:

A Bowman stop-needle was made to penetrate by a gimletlike movement. Grayish-white lens-matter escaped and filled the anterior chamber. The needle was made to enlarge the opening slightly by vertical and lateral movements. It was then withdrawn, and the eye dressed with a light compressing bandage. Twenty-four hours later the anterior chamber was clear and the patient could count fingers, though with some uncertainty. December 13, 1899, a Knapp's knife-needle was introduced and the capsule carefully cut and thrust aside. This created a pupil, somewhat below the center of the iris, to the upper margin of which pupil the capsule was clinging. Ten days later the patient's vision amounted to 5-60 with a convex, spheric lens of 12 D. Two months later his vision amounted to 5-25, with the appropriate lens.

INDEX TO VOLUME XXI

PAGE
Acidity 429
Acromegaly, Pathological Anatomy of.............................. 57
Addison's Disease, The Origin of the Skin Pigment in 314
Address and Presentation of Diplomas. By Hon. William L. Learned, LL. D. 503
Address to the Graduates. By A. Vander Veer, M. D............... 499
Acreolin, Anti-Bacteriological Value of........................... 320
Africa, South: Its Diseases.. 699
Albany College of Pharmacy 253, 639
Albany County, Coroners' Physicians of 45
Albany City Homœopathic Hospital, Woman's Auxiliary of the....... 692
Albany Filtration Plant, Discussion on............................ 635
Albany Guild for the Care of the Sick Poor.....................244, 690
Albany Guild for the Care of the Sick Poor: Special Obsetrical Department 682
Albany Health Department Regulations for Health Physicians........ 577
Albany Health Department, The August Report of the............... 577
Albany Health Department, The September Report of the............ 640
Albany Health Department, The October Report of the.............. 689
Albany Hospital 253, 421, 471
Albany Hospital, Annual Appeal for the 302
Albany Hospital, Detention Ward for the 44
Albany Hospital Training School for Nurses.....................377, 691
Albany Medical College 291
Albany Medical College Alumni Association of New England 421
Albany Medical College Alumni Association of New York 43, 104
Albany Medical College, Announcement for Session 1900-1........... 471
Albany Medical College, Association of the Alumni—Twenty-Seventh Annual Meeting 351
Albany Medical College, Opening of the Seventieth Session......... 639
Albany Medical College, Sixty-Ninth Commencement.................. 253
Albany, Medical Society of the County of........................
38, 107, 172, 250, 299, 373, 634, 686
Albany, Medical Society of the County of. Report of the Committee on Hygiene 375
Albany Nurses' Directory, The...................................... 692
American Academy of Medicine, The.............................254, 424
American Association of Obstetricians and Gynecologists, The....... 525
American Dermatological Association at Paris 380
American Electro-Therapeutic Association......................425, 525

American Journal of Nursing.... 580
American Medico-Psychological Association.... 111, 304
American Surgical Association.... 379
American Therapeutic Society 379
Amyloid Degeneration, Researches on.... 529
Aneurism of the Brachial Artery, Traumatic.... 293
Angina, Septic Maculo-Papular Erythema following.... 591
Anisometropia, Management of Cases of High.... 594
Angina Epiglottidea Anterior, Report of Three Cases, by Clement F. Theisen, M. D.... 395
Ankylosing Inflammation of the Vertebral Column and the Hip Joint, Chronic 479
Antitussin, The Treatment of Whooping Cough with.... 481
Appendicitis. By Charles B. Mallery, M. D.... 676
Appendicitis and Influenza.... 117
Appendix and Cæcum, Diseases of the.... 478
Archambault, J. L., M. D. Remarks on Retropharyngeal Abscess and Pulsating Empyema, with Report of Cases.... 65
Archambault, J. L., M. D. The Report of a Case of Gastric Ulcer, with Presentation of Post Mortem Specimen.... 505
Army Ration, Prize for an Ideal.... 304
Army, Medical Officers in the United States.... 46
Arterial Tension in Childhood. By Henry L. K. Shaw, M. D.... 88
Ascites, Pseudo-Chylous Forms of.... 190
Ashurst, John, Jr., M. D., LL. D., Death of.... 474
Asiatic Woman a Doctor of Medicine, An.... 522
Associated Physicians of Long Island, Transactions of the, Review of.... 477
Association of Military Surgeons of the United States, The.... 426
Asthma, Therapy of Bronchial 55
Aurelia Osborn-Fox Memorial Hospital at Oneonta, The 640

Bacteriological Laboratories of the Rhode Island Hospital.... 378
Bacteriology in Medicine and Surgery. By Wm. Hallock Park, M. D. Review of 306
Balch, Surgeon-Major Lewis.... 475, 644
Baldwin, Edward R., M. D. Results of the Climatic and Sanitorium Treatment of Tuberculosis in the Adirondacks.... 213
Barker, Lewellys F., M. D. The Nervous System and Its Constituent Neurones. Review of.... 113
Bartholow, Roberts, M. D. A Practical Treatise on Materia Medica and Therapeutics. Review of 49
Baudry, S., M. D. Injuries to the Eye in Their Medico-Legal Aspect. Review of.... 477
Beilby, George E., M. D. Appointment of.... 475
    Marriage of 695
Beri-Beri, The Parasite of.... 534
Bertillon Classification of the Causes of Death, The Revision of the.. 641

Beth Israel Hospital 424
Bibliographia Medica 424
Biliary Passages, Tumors of the 651
Bladder Mucosa, Injuries to 696
Blumer, George, M. D. Infectious Character of Tuberculosis and the Prognosis of Incipient Pulmonary Consumption 217
Bowditch, Vincent Y., M. D. The Work Accomplished at the State Hospital for Consumptives at Rutland, Mass 207
Boyce, Dr. F. M., ... 695
Bradycardia 585
Brain, Lesion of the Lateral Sinus in Traumatism of the 381
Brain, The Anatomy of the. By Richard H. Whitehead, M. D. Review of 475
Branch, Frederick D., M. D., Appointment of 255
Breath, Remarks about Bad 317
Brennan, James E., M. D., Memorial of 298
British Medical Association 580
Brown, J. Price. Diseases of the Nose and Throat. Review of 476
Brush, Hon. George W., M. D. Discussion on the State Care of Tuberculous Patients 237
Bryant, Joseph D., M. D. Operative Surgery. Review of 179
Buffalo, Emergency Hospital at 46
Bythell, W. J. S., M. D. Medical Education in Great Britain 569

Caecum and Appendix, Diseases of the 478
Calculus, Unusually Large Urinary 695
Campaigne, William Nesbitt, M. D., Marriage of 475
Cancer and Consumption Hospital at Buffalo 525
Cancer, For the Study of 112
Carcinoma Oesophagi, A New Method of Treatment of. By Dr. Walter Zweig 85
Carcinoma of the Stomach, Surgical Treatment of 310
Carcinoma of the Stomach, with Report of Cases Showing Increased Hydrochloric Acid. By Andrew MacFarlane, M. D 406
Cataract, Senile, Spontaneous Disappearance of 660
Cavanaugh, W. J., M. D 256
Cerebral Tumor, Spinal Cord Changes in 701
Cerebro-Spinal Fever. By F. B. Maynard, M. D 618
Chaffee, Heman, M. D., Memorial of 521
Chemistry, A Laboratory Manual of Physiological. By Elbert W. Rockwood, B. S., M. D. Review of 582
Child's Hospital Staff, The 639
Christian Science By William A. Purrington. Review of 644
Circulatory Disurbances following Ligation of the Jugular 116
Cohoes (N. Y.) Hospital Leased, The 523
Cohnheim, Dr. Paul. The Practical Value of the Presence of Lactic Acid in the Gastric Contents 276

Colleges, Recent Changes in the Faculties of Medical................ 305
Conjunctivitis Folliculosa and Trachoma............................ 61
Consumptives, Forests for.. 473
Consumptives, State Hospital for..............................102, 306
Consumptives, Taxation with Reference to State Care of. By Hon. Otto Kelsey 228
Consumptives, The Proposed Site of the State Hospital for.......... 641
Consumptives, The Work of the State Hospital at Rutland, Mass., for. By Vincent Y. Bowditch, M. D.................................... 207
Coopernail, George, M. D., Appointment of......................... 644
Coplin, W. M. Late, M. D. Manual of Pathology, Including Bacteriology. Review of.. 582
Corpora Quadrigemina, Investigation upon the 183
Craig Colony for Epileptics.. 112
Craig, Joseph D., M. D. Dissecting Room Anomalies................. 160
Cyclopedia of Practical Medicine and Surgery, A. By George M. Gould, M. D., and Walter L. Pyle, M. D. Review of............ 647

Da Costa, J. Chalmers, M. D. Modern Surgery, General and Operative. Review of.. 649
Da Costa, J. M., M. D., Death of.................................. 581
Dannemora, Transfer of Insane Criminals to 693
Deaths of Two Surgeons as the Result of Infection from the Same Wound 425
De Gassicourt, Dr. Ernest Cadet, Death of......................... 474
Deontology, First International Congress of Medical................ 305
Dermatitis, Autotoxic 483
Dermatitis Gangraenosa Infantum. By H. Judson Lipes, M. D....... 1
Diabetes Mellitus, Diagnosis of Uræmia and Albuminuria in......... 119
Diagnosis, Elements of Medical. By Solomon Solis-Cohen, M. D., and Augustus A. Eshner, M. D. Review of...................... 478
Dictionary of Medical Science, A. By Robley Dunglison, M. D., LL. D., and Richard J. Dunglison, A. M., M. D. Review of...... 648
Digitalis and its Aid in Chronic Cardiac Disease.................. 652
Diphtheria at the Willard State Hospital, Observations from an Outbreak of 578
Diphtheria Bacilli in Well Persons................................ 526
Diphtheria, Prophylactic Measures against......................... 428
Diplegia, Cerebral.. 589
Dispensary, The South End... 691
Dissecting Room Anomalies. By Joseph D. Craig, M. D........... 160
Doran, R. E., M. D. Mammary Cancer with Metastatic Involvement of Bones 159
Dry Hot Air as a Therapeutic Agent in Private Practice. By R. H. Irish, M. D.. 562
Dunglison, Robley, M. D., LL. D., and Richard J., A. M., M. D. A Dictionary of Medical Science. Review of.................... 648
Dysentery. The Bacteriology of Tropical........................... 572

Eastman, Dr. N. L., Marriage of 695
Eclampsia, A Living Fœtus as a Cause of........ 125
Education and the Profession of Medicine. By President Andrew V. V. Raymond, D. D., LL. D........ 129
Ellithorp, Robert L., M. D. Appointment of........ 113
Elting, Arthur W., M. D. The Antitoxin Treatment of Tetanus..... 32
Elting, Arthur W., M. D. The Bacteriology of Gonococcus Infections 144
Elting, Arthur W., M. D. Marriage of 581
Emery, Z. Taylor, M. D. Discussion on the State Care of Tuberculosis Patients 239
Endocarditis, Primary Simple Acute. By Henry Hun, M. D........ 343
Endocarditis, Primary Acute. Discussion on 39
English House of Lords, An American Physician in the........ 694
Epicarin, a New Remedy........ 482
Epilepsy Terminating in General Paralysis........ 128, 592
Epileptic Impulse to Wander 127
Epithelioma of the Supra-Renal Capsules 314
Erythema. Septic Maculo-Papular, following Angina........ 591
Escherich, Professor Theodor. A Description of a New Incubator Employed in the Children's Hospital at Graz........ 487
Euphthalmin: A New Mydriatic........ 189
Expert Testimony, Historical and Practical Consideration Regarding. By Learned Hand, LL. B........ 599
Eye, A Manual of the Diagnosis and Teatment of the Diseases of the. By Edward Jackson, M. D. Review of........ 178
Eye, Injuries to the, in Their Medico-Legal Aspect. By S. Baudry, M. D. Review of........ 477

Fever and Fever Remedies. By A. Jacobi, M. D........ 256
Fibroma of the Mesentery. Operative Treatment of........ 311
Fibromyoma, Surgical Treatment of........ 123
Filtration Plant, The Albany, and its Effect on the Occurrence of Typhoid Fever. By Martin MacHarg, M. D........ 663
Foreign Bodies in the Air Passages, Two Cases of........ 64
Foreign University Intelligence 306
Fowler, George R., M. D. Discussion on the State Care of Tuberculosis Patients 235
Fuchs, Dr. Ernest. A Text-Book of Ophthalmology. Review of.... 256

Gangrene Complicated by Glycosuria........ 528
Gant, Samuel G., M. D........ 428
Gastric Motility, Disturbances in, Discussion on........ 300
Gastric Secretion, Therapeutic Modifications of the........ 53
Gastric Ulcer, The Report of a Case, with Presentation of Post Mortem Specimen. By J. L. Archambault, M. D........ 505
Gastritis, Chronic, Fatal Hæmorrhage in the Course of........ 586
General Paralysis, Epilepsy Terminating in........ 592

Geneva (N. Y.) Hospital, Bequest to the.......... 522
Genito-Urinary Tract, The Surgical Disease of the. Review of. By G. Frank Lydston, M. D.......... 50
Glanders 531
Glaucoma, Chronic, with Special Reference to the Visual Field.......... 434
Glaucoma, The Operative Treatment of.......... 703
Glaucoma, The Treatment of, by Massage 485
Glycosuria, Gangrene Complicated by.......... 528
Gonococci and the Genital Organs of Women.......... 115
Gonococcic Rhinitis in an Infant.......... 316
Gonococcus Infections, The Bacteriology of. By Arthur W. Elting, M. D. 144
Gonorrhœa, The History of. By William O. Stillman, A. M., M. D... 541
Gonorrhœa, The Medical Complications of. By Samuel B. Ward, M. D. 458
Gonorrhœa, The Medical Complications of, Discussion on.......... 175
Gonorrhœal Infections, The Bacteriology of. Discussion on.......... 108
Gonorrhœal Rheumatism 528
Gonorrhœal Stomatitis 318
Gordinier, Hermon C., M. D. A Case of Splenic Myelogenous Leukæmia with Autopsy.......... 18
Gorham, George E., M. D., Appointment of.......... 113
Gould, George M., A. M., M. D. The Students' Medical Dictionary, Review of 647
Gould, George M., M. D., and Walter L. Pyle, M. D. A Cyclopedia of Practical Medicine and Surgery. Review of.......... 647
Gout, Treatment of.......... 55
Graz, Letter from. By Henry L. K. Shaw, M. D.......... 93
Great Britain, Medical Education in.......... 575
Great Britain, Medical Education in. By W. J. S. Bythell, M. D..... 569
Gregory, Minas S., M D., Appointment of.......... 475
Grier, Dr. M. J., Death of 694
Griffith, Captain-Surgeon Lewis T.......... 475
Gross Prize of One Thousand Dollars.......... 254

Hacker, Dr. Christian G., Marriage of.......... 596
Hæmoglobin and the Red Blood Corpuscles, The Origin of.......... 189
Hæmorrhage into Eyeball.......... 186
Hamlin, Francis M., M. D. Memorial of.......... 299
Hand, Learned, LL. B. Historical and Practical Considerations Regarding Expert Testimony.......... 599
Hanks, Horace Tracy, M. D., Death of 685
Happel, William H., M. D. Tubercular Peritonitis in Infancy.......... 630
Happel, William H., M. D. Tuberculosis in Children.......... 11
"Harvest Home Festivals" for the Hospitals.......... 640
Headache and Affections of the Eye.......... 62
Hennessy, J. V., M. D. Some Points in the Making of a Plaster Jacket 489

Henry, Hon. Nelson H., M. D. Discussion on the State Care of Tuberculosis Patients 237
Hepatic Diathesis 98
Herpes in Croupous Pneumonia, A Rare Localization of........ 480
Hip Joint, Diagnosis and Treatment of Fractures of the. By Douglas C. Moriarta, M. D........ 448
"Hit by the Eclipse." By W. H. Morse, M. D........ 414
Hoff, Major John V. R., Appointment of........ 522
Hopkins, Henry R., M. D. Discussion on the State Care of Tuberculous Patients 236
Hopkins, Henry R., M. D. Report of the Committee on Hygiene to the Medical Society of the State of New York........ 193
Howd, Emmett, M. D., Marriage of........ 695
Hun, Henry, M. D. Primary Simple Acute Endocarditis........ 343
Hydrophobia, Immunization against, with Normal Nerve Substance... 314
Hygiene, Report of the Committee of the Medical Society of the State of New York on. By Henry R. Hopkins, M. D........ 193
"Hypermetropia Acquisita?" Is there a........ 433
Hysterectomy, Total Suprapubic Subperitoneal........ 124
Hysteria, Pathogenesis and Surgical Treatment of........ 100

Incubator, A Description of a New, Employed in the Children's Hospital at Graz. By Professor Theodor Escherich........ 487
Index Medicus 254
Infancy, Electrical Excitability in........ 701
Infant Feeding 419
Influenza and Appendicitis 117
Influenza, The Effects upon the Heart........ 182
Insane, Surgical Operations in Hospitals for the. By William Mabon, M. D. 435
Insane in General Hospitals, The. By J. M. Mosher, M. D........ 669
Insanity of Married Women, The........ 483
Insanity, The Vascular Tension in,........ 484
International Clinics, Review of........ 583
International Congress of Medical Electrology and Radiology........ 177
International Medical Annual. Review of........ 308
Intra-Cranial Suppuration of Otitic and Rhinitic Origin, Pathology of 317
Intra-Cranial Tumors, Localization of........ 186
Intussusception, Acute. The Mortality and Treatment of........ 588
Irish, R. H., M. D. Dry Hot Air as a Therapeutic Agent in Private Practice 562
Irish, R. H., M. D. Nephritis of Pregnancy—History of Two Neglected Cases 161
Irwin, Hon. Samuel B., M. D. Discussion on the State Care of Tuberculous Patients 236

Jacobi, A., M. D., Banquet in honor of........ 380

Jacobi, A., M. D. Fever and Fever Remedies........................ 256
"Jacobi Number" of *Pediatrics*.................................. 426
Jacoby, George W., M. D.. 381
Jackson, Edward, M. D. A Manual of the Diagnosis and Treatment of the Diseases of the Eye. Review of........................ 178
Jahrbuch für Kinderheilkunde.................................. 423
Janes, George H., M. D., Appointment of........................ 47
J. B. Lippincott Company, New Home for........................ 581
Jones, Charles E., M. D., The Death of........................ 113
Jones, Charles E., M. D., Memorial of........................ 37
Journal of Surgical Technology.................................. 523

Katz, Herman, W., M. D.. 381
Kelsey, Hon. Otto. Taxation with Reference to State Care of Consumptives 228
Kidney, The Internal Secretion of the.......................... 698
Kimball, James P., M. D., U. S. A., Promotion of.............. 255
Knopf, Dr., Prize Awarded to.................................. 524
Koplik's Spots in Measles 118
Korsakoff's Psychosis 383

Labor, Cysts of the Ovary Complicating.......................... 123
Lactic Acid. The Practical Value of the Presence of, in the Gastric Contents. By Dr. Paul Cohnheim.......................... 276
Lamb, Robert B., M. D., Appointment of........................ 428
LaMoure, Howard A., M. D., Appointment of..................... 475
Lanahan, Joseph A., M. D., Appointment of..................... 47
Landry's Paralysis 656
Lange, Dr. Carl, Death of.. 474
Lartigau, August Jerome, M. D. Awarded Alonzo Clark Scholarship 428
Learned, Hon. William L., LL. D. Address and Presentation of Diplomas 503
Lepers in the Philippines, An Island for Segregation of............ 523
Leprosy in the Hawaiian Islands, Discussion on.................. 251
Leucocytes, Iodophilic, in Diseases of the Blood.................. 534
Leukæmia, A Case of Splenic Myelogenous, with Autopsy. By Hermon C. Gordinier, M. D.. 18
Leukæmia, The Central Nervous System in........................ 313
Lewi, W. G., M. D.. 381
Lewis, Daniel, M. D. Discussion on the State Care of Tuberculous Patients 232
Lipase in Pathological Conditions................................ 122
Lipes, H. Judson, M. D. Dermatitis Gangrænosa Infantum.......... 1
Lithiasis, Intestinal 181
Lomax, Howard E., M. D.. 306
London Letter. By Harry S. Pearse, M. D......................... 367
Lungs, The Diagnosis of Tumor of the............................ 180
Lupus of the Nose Cured by the New Tuberculin.................. 318

Lydston, G. Frank, M. D. The Surgical Diseases of the Genito-Urinary Tract, Venereal and Sexual Diseases. Review of........ 50
Lymphæmia without Enlargement of the Lymphatic Glands.......... 654
Lyon, Professor Howard, An X-Ray Burn.......................... 240

Mabon, William, M. D. Surgical Operations in Hospitals for the Insane 435
MacFarlane, Andrew, M. D. Carcinoma of the Stomach with Report of Cases Showing Increased Hydrochloric Acid................. 406
MacHarg, Martin, M. D., The Albany Filtration Plant and its Effect on the Occurrence of Typhoid Fever.......................... 663
Macrodactylism, A Case of Congenital.............................. 431
Malaria, Pseudo-Hydrophobia in a Patient with..................... 586
Malaria, The Epidemiology of, from the New Standpoint.......... 529
Malaria, The Mosquito and... 632
Malignant Growths, Infectivity of................................. 382
Mallery, Charles B., M. D. Appendicitis.............................. 676
Mammary Cancer with Metastatic Involvement of the Bones. By R. E. Doran, M. D.. 159
Manhattan State Hospital at Central Islip.......................... 524
Materia Medica and Therapeutics. By Roberts Bartholow, M. D. Review of 49
Maynard, F. B., M. D. Cerebro-Spinal Fever....................... 618
McGuire, Hunter, M. D., Death of.................................. 581
Medical Colleges, Recent Changes in............................... 472
Medical Examiner for Life Insurance and His Responsibilities. By S. Oakley Vander Poel, M. D.. 138
Medical Progress 575
Medical Reciprocity, First Steps in.................................. 526
Medical Register Discontinued...................................... 473
Medical Standard.. 111
Medical Standard's "College Number," The........................ 524
Medical Students, Suspension of.................................... 45
Mental Diseases, General Pathology of.............................. 383
Mental Symptoms of Fatigue.. 59
Merriman, Dr. George C.. 695
Metatarsalgia (Morton's Disease) 649
Micro-Organisms, Pathogenic, in the Air............................ 320
Micro-Organisms in Tumors, Concerning............................ 593
Milk Charity, The Nathan Straus..................................... 474
Milk Diet in Diabetes.. 181
Milk Supply of European Cities. By H. L. K. Shaw, M. D........... 164
Mississippi Valley Medical Association, The........................ 525
Missouri, Chief Surgeon of the Department of the. Report of....... 643
Missouri Valley, The Medical Society of the......................... 641
Mivart, Death of Dr. St. George..................................... 303
Moak, Harris, M. D., Marriage of.................................... 581
Modern Surgery, General and Operative. By John Chalmers DaCosta, M. D. Review of.. 649

Moore, Veranus A., M. D. The Preparation of Tuberculin, its Value as a Diagnostic Agent, and Remarks........ 321
Moriarta, Douglas C., M. D. Diagnosis and Treatment of Fractures of the Hip Joint........ 448
Morse, W. H., M. D. "Hit by the Eclipse"........ 414
Mortality of the State of New York for 1899........ 255
Mosher, J. M., M. D., The Insane in General Hospitals........ 669
Multiple Sclerosis after Trauma........ 589
Municipal Medical Appointments........ 113
Murphy, Parker, M. D. Physical Exercises in the Treatment of Pulmonary Tuberculosis 625
Myotonia, Case of Partial Congenital........ 600

Nasal Secretion, Blue 64
National and State Medical Societies, Meetings for November and December 641
Nephritis, Heredity in Chronic........ 311
Nephritis of Pregnancy—History of Two Neglected Cases. By R. H. Irish, M. D........ 161
Nephritis, The Diagnosis and Prognosis of........ 120
Nephritis without Albuminuria in Young Children........ 431
Nerves During Acute Disturbances in the Circulation, Changes in the 58
Nervous System and Its Constituent Neurones. By Lewellys F. Barker, M. D. Review of........ 113
New York Medical Journal, The........ 578
New York Legislature, Important Medical Bills in the...103, 169, 247, 297
New York, Medical Legislation of 1900 of the State of. By Arthur G. Root, M. D........ 295
New York, Medical Society of the State of........ 167
New York Medical Society of the State of, Business Committee of the 54
New York Skin and Cancer Hospital, The........ 694
New York, State Board of Health of........ 379
New York State Board of Health, April Bulletin of........ 422
New York State Board of Health, February Bulletin of the........ 303
New York State Board of Health, The August Bulletin of the........ 642
New York State Board of Health, The September Bulletin of the.... 693
New York State Board of Regents........ 303
New York State Hospitals, Radical Changes in........ 380
New York State Hospitals, Shall the Pathological Institute Study the Pathological Material of?........ 417
New York State Medical Association, The........ 643
Niagara Falls, Maternity Hospital at........ 45
Northwestern University Medical School, Chicago........ 580
Nose and Throat, Diseases of the. By J. Price Brown, M. D. Review of 476
Nothnagel's Convulsive Centre in the Pons........ 59
Nursing as a Profession. By Mrs. Hunter Robb........ 491

Obstetrical Fraud, An 526

Ohio, The New Medical Law of.............................. 426
Ophthalmitis, Blindness from Sympathetic.......................... 703
Osteoma, Intra-Muscular 117
Otis, Edward O., M. D. Discussion on the State Care of Tuberculous Patients 240
Otis, Edward O., M. D. Sanitaria for Tuberculosis in Massachusetts 372
Otis, Edward O., M. D. The Duty of the State and Municipality in the Care of Pulmonary Tuberculosis among the Poor........ 198
Otis, Dr. Fessenden N., Death of.............................. 427
Ophthalmology, A Text-Book of. By Dr. Ernest Fuchs. Review of.. 256

Pan-American Exposition, 1901, Department of Ethnology and Archæology 473
Pan-American Medical Congress, The............................ 424
Pancreas, Auto-Digestion of the 121
Paralyses, Post-Anæsthetic 60
Parish, Charles E., M. D.................................... 47
Park, Wm. Hallock, M. D. Bacteriology in Medicine and Surgery. Review of 306
Parsons, Payn Bigelow, M. D., Marriage of...................... 428
Pathology and Bacteriology, A New Society for 379
Pathology including Bacteriology, Manual of. By W. M. Late Coplin, M. D. Review of.. 582
Pearse, Harry S., M. D. Letter from Philadelphia................ 27
Pearse, Harry S., M. D. London Letter.......................... 367
Penis, Epithelioma and Removal of.............................. 697
Peritonitis, Tubercular, in Infancy By William H. Happel, M. D.... 630
Pertussis, The Management and Treatment of. Discussion on...... 300
Pharyngitis, Chronic Recurring Membranous...................... 532
Pharyngotomy, Subhyoid, for the Removal of a Malignant Growth of the Larynx.. 597
Pharynx, Infective Granulomata of 531
Philadelphia, Letter from. By Harry S. Pearse, M. D............ 27
Phillips, Wendell C., M. D., Appointment of...................... 255
Phi Sigma Kappa. Banquet of the Beta Chapter of................ 378
Phloridzin in Renal Insufficiency.............................. 122
Phthisis at a High Altitude.................................. 697
Physicians of Albany and Vicinity Swindled...................... 577
Pilcher, Dr., Honored.. 473
Pilocarpin, Uncommon Uses of.................................. 115
Pituitary Body, Tumor of the.................................. 57
Placenta Prævia, Air Emboli in................................ 430
Plague in Eastern Mongolia.................................... 120
Plague. The Role Played by the Fleas of Rats and Mice in the Transmission of the.. 315
Plaster Jacket. Some Points in the Making of a. By J. V. Hennessy, M. D. 489

Plaster Jacket, Some Points in the Making of a. Discussion on...... 299
Pneumonia, Leucocytosis in Acute Lobar........................... 318
Pneumonia. The Bacteriology of Lobar, Occurring in Typhoid Fever 530
Porto Rico, Board of Charities of.................................. 253
Providence Medical Journal 111
Polyadenomata of the Large Intestine, The.......................... 527
Pryor, John H., M. D. Discussion on State Care of Tuberculous Patients 230
Pseudo-Hydrophobia in a Patient with Malaria....................... 586
Psychopathic Hospitals 97
Psychoses of the Menopause... 292
Pupils, Modification of the.. 662
Purrington, William A. Christian Science, Review of...............644
Pus Organisms. The Role of, in Skin Diseases....................... 658
Pyle, Walter L., M. D., and George M. Gould, M. D. A Cyclopedia of Practical Medicine and Surgery. Review of 647

Rapp, William M., M. D... 381
Raymond, President Andrew V. V. Education and the Profession of Medicine 129
Raynaud's Disease and Gangrene, Nerve Stretching in................ 696
Recklinghausen's Disease 432
Red Cross Association, The Reorganization of the National........ 474
Refraction and How to Refract. By James A. Thorington, M. D. Review of 47
Remak's Femoral Reflex 657
Retropharyngeal Abscess and Pulsating Empyema with Report of Cases. By J. L. Archambault, M. D................................ 65
Revista de Medicina Tropical..................................... 523
Richardson, C. Harper, M. D. Modern Methods of Preparing and Preserving Materials Used in Surgical Operations.............. 385
Robb, Mrs. Hunter. Nursing as a Profession......................... 491
Robinson, Arthur Thayer, M. D., Memorial of........................ 685
Rockwood, Elbert W., M. D. A Laboratory Manual of Physiological Chemistry. Review of 582
Roentgen, Professor. The Barnard Medal Award to.................... 424
Roentgen Rays, The Effects of the.................................. 481
Roentgen Society of the United States, The......................... 425
Ronan, Andrew, M. D.. 113
Root, Arthur G., M. D. Discussion on the State Care of Tuberculous Patients 234
Root, Arthur G., M. D. Medical Legislation of 1900 of the State of New York 295
Root, Arthur G., M. D., Appointment of............................. 256
Rose, Alanson D., M. D., Marriage of............................... 47
Ross, George W., M. D., Marriage of................................ 644
Royal College of Surgeons of England, The.......................... 581

Sabey, W. B., M. D., Appointment of................................ 381

Sabin, William B., M. D. Opacities of the Vitreous.................. 465
St. Louis, A Million Dollar Hospital for.............................. 523
St. Peters' Hospital Staff.. 576
Salmon, Thomas W., M. D., Marriage of............................... 256
Sarcomá of the Eyelids... 596
Sayre, Dr. Lewis A., Death of... 694
Schauber, Isaac B., M. D., Memorial of.............................. 373
Schenk, Professor, Removed.. 112
Senn, Gift of Dr.. 694
Sexual Hygiene 116
Shakespeare, Dr. E. O., Death of..................................... 427
Shaw, Henry L. K., M. D. Arterial Tension in Childhood............ 88
Shaw, Henry L. K., M. D. Letter from Graz......................... 93
Shaw, Henry L. K., M. D. Letter fromVienna........................ 22
Shaw, Henry L. K., M. D. The Milk Supply of European Cities..... 164
Skene, Alexander J. C., M. D., Death of.............................. 474
Smart, Fred A., M. D... 643
Spinal Paralysis, Transitory.. 184
Spleen, Cells in the Follicles of the, in Diphtheria and Other Affections 315
Spleen, Total Splenectomy for Hypertrophy and Displacement of.... 650
Squibb, Dr. Edward R., Death of...................................... 694
Stanwix, Ge:orge, M. D.. 47
Status Lymphaticus and Diphtheria.................................... 99
Stillé, Dr. Alfred, Death of... 695
Stillman, William O., A. M., M. D. The History of Gonorrhoea.... 541
Stoddard, Enoch V., M. D. Policy of the State Relative to the Spread of Tuberculosis 224
Stokes, Sir William, Death of.. 581
Stomach, A Case of Congenital Occlusion of......................... 588
Stomach, Carcinoma of the, Showing Increased Hydrochloric Acid. By Andrew MacFarlane, M. D.............. 406
Stomach, Pepsin Secretion in Diseases of the........................ 191
Stomach, Surgical Treatment of Carcinoma of........................ 310
Stout, Edward G., M. D., Appointment of............................ 475
Streptococcic Angina, An Epidemic of Simple........................ 531
Stuart, William Henry, M. D., Memorial of........................... 372
Students' Medical Dictionary, The. By George M. Gould, A. M., M. D. Review of 647
Surgery, Operative. By Joseph D. Bryant, M. D. Review of........ 179
Surgical Operations, Modern Methods of Preparing and Preserving Materials Used in. By C. Harper Richardson, M. D............. 385
Surgical Operations, The Best Methods of Preparation, Sterilization and Preservation of Materials Used in. Discussion on.......... 41
Supra-Renal Extract 597
Swart, W. J., M. D., Appointment of.................................. 644
Swinburne, Dr. Grave Decorated 422
Sympathetic in the Treatment of Glaucoma, Resection of the......... 63
Syphilis, Atrophy of the Root of the Tongue in Tertiary............. 316

Syphilis from Dental Instruments.............................. 590
Syphilis of the Tonsil of the Tongue.............................. 530
Syphilis, Prompt and Radical Cure of.............................. 312
Syphilis, Visceral 54
Syphilitic Insanity, A Degenerative Form of 127

Tabes, Case of, with Almost Complete Laryngolplegia............... 655
Tabes, Case of, with Almost Complete Laryngoplegia................ 655
Tetanus, The Antitoxin Treatment of. By Arthur W. Elting, M. D., 32
Tetany, Electrical Excitability in................................ 701
Theisen, Clement F., M. D. Angina Epiglottidea Anterior. Report of Three Cases 395
Therapeutics, Post-Graduate Instruction in. By Reynold Webb Wilcox, M. D., LL. D.. 454
Thorington, James, M. D. Refraction and How to Refract. Review of 47
"Toe Phenomenon" of Babinski...................................... 184
Tongue, Hypertrophy in Length of the.............................. 529
Tonsillitis, Carbolic Acid Injections in.......................... 55
Trachoma in Berlin, Epidemic of................................... 186
Training School for Nursery Maids................................. 639
Traver, A. H., M. D. Fracture of the Great Trochanter............ 468
Trional Poisoning, A Case of Chronic.............................. 56
Troidle, Dr. Benno, Marriage of................................... 695
Trochanter, Fracture of the Great. By A. H. Traver, M. D.......... 468
Tropical Diseases, A Hospital for, in Liverpool................... 524
Tropical Diseases, A School for................................... 31
Troy City Hospital.. 471, 693
Tubercle Bacilli and Other Bacteria in the Sputum, Diagnostic and Therapeutic Significance of..................................... 504
Tuberculin and the Early Diagnosis of Tuberculosis................ 533
Tuberculin, Preparation and Value as a Diagnostic Agent. By Veranus A. Moore, M D... 321
Tubercular Peritonitis in Infancy. By William H. Happel, M. D..... 630
Tuberculosis, Electricity as a Treatment of....................... 698
Tuberculosis in Children. By William H. Happel, M. D.............. 11
Tuberculosis in Children. The Etiology and Treatment of. By James W. Wiltse, M. D... 283
Tuberculosis, Muscular 117
Tuberculosis, Infectious Character of, and the Prognosis of Incipient Pulmonary Consumption. By George Blumer, M. D................. 217
Tuberculosis in the Adirondacks, Results of the Climatic and Sanitorium Treatment of. By Edward R. Baldwin, M. D................ 213
Tuberculosis, Past, Present and Future Legislation Concerning. By Senator Horace White... 225
Tuberculosis, Policy of the State Relative to the Spread of. By Enoch V. Stoddard, M. D... 224
Tuberculosis, Pulmonary, Physical Exercises in the Treatment of. By Parker Murphy, M. D.. 625

Tuberculosis, Prizes for Thesis on........................... 473
Tuberculosis, Sanitaria for, in Massachusetts. By Edward O. Otis, M. D. 372
Tuberculosis, The Duty of the State and Municipality in the Care of Pulmonary, among the Poor. By Edward O. Otis, M. D......... 198
Tuberculosis, The Early Diagnosis of........................... 470
Tuberculous Patients. Discussion on State Care of.
  By John H. Pryor, M. D........................... 230
  By Daniel Lewis, M. D........................... 232
  By Arthur G. Root, M. D........................... 234
  By Samuel B. Ward, M. D........................... 235
  By George R. Fowler, M. D........................... 235
  By Henry R. Hopkins, M. D........................... 236
  By Hon. S. B. Irwin, M. D........................... 236
  By Hon. George W. Brush, M. D........................... 237
  By Hon. Nelson T. Henry, M. D........................... 237
  By Z. Taylor Emery, M. D........................... 239
  By Edward O. Otis, M. D........................... 240
Tuberculous Patients, The First Suburban Sanitorium in Russia for.. 46
Tumors, Concerning Micro-Organisms in........................... 593
Typhoid, Affections of the Lung in........................... 52
Typhoid Bacillus and Drinking Water, The........................... 633
Typhoid Bacillus, The Detection of the........................... 319
Typhoid Epidemic Due to Infected Drinking Water, A.............. 587
Typhoid Fever in Private Practice. By William J. Wansboro, M. D.. 550
Typhoid Fever in Private Practice. Discussion on.................. 252
Typhoid Fever, Cerebral Pressure Symptoms in..................... 653
Typhoid Fever, The Albany Filtration Plant and its Effect on the Occurrence of. By Martin MacHarg, M. D..................... 663
Typhoid Fever, The Elective Diagnosis of........................... 32

Union College 577
Union Medical Society...........................111, 302
Union University Board of Governors........................... 639
Uranalysis and Urinary Diagnosis, Practical. By Charles W. Purdy, M. D. Review of 583
Urethritis, Anterior, Acute and Chronic, The Treatment of. Discussion on 175
Urinary Casts, The Origin of........................... 192
Urotropin, The Value of........................... 480
Vaccination, "Agin" 684
Vaccine, The Action of Blood Serum on........................... 532
Vander Poel, S. Oakley, M. D. The Medical Examiner for Life Insurance and His Responsibilities........................... 138
Vander Veer, A., M. D. Address to the Graduates................. 499
Vander Veer, Edgar Albert, M. D., Marriage of.................. 428
Van Zandt, Henry C., M. D., Memorial of........................... 250
Varicocele, Radical Operation for........................... 309
Vedder, Lansing T., M. D., Memorial Notice of...................
Vienna, Letter from. By Henry L. K. Shaw, M. D................. 22
Virchow's Jubilee 45

Vitreous, Opacities of the. By William B. Sabin, M. D. 465
Vitreous, Opacity of. Discussion on 252

Wansboro, William J., M. D. Typhoid Fever in Private Practice.... 550
Ward, S. B., M. D. Discussion on the State Care of Tuberculous Patients 235
Ward, Samuel B., M. D. The Medical Complications of Gonorrhoea, 458
Water Filtration 304
Weil's Disease 51
White, Hon. Horace. Legislation Concerning Tuberculosis, Past, Present and Future 225
Whitehead, Richard H., M. D. The Anatomy of the Brain. Review of 475
Whooping Cough, The Management and Treatment of. By J. W. Wiltse, M. D. 535
Whooping Cough, The Treatment of, with Antitussin 481
Wilcox, Reynold Webb, M. D., LL. D. Post-Graduate Instruction in Therapeutics 454
Wiltse, James W., M. D. Etiology and Treatment of Tuberculosis in Children 283
Wiltse, J. W., M. D. The Management and Treatment of Whooping Cough 535
Women Nurses in the Army 246
Women's Diseases, Prolonged Standing in the Production of 124
Woodruff, William J., M. D., Memorial of 633

X-Ray Burn. By Professor Howard Lyon 240

Yale Medical School 579

Zweig, Dr. Walter. A New Method of Treatment of Carcinoma Oesophagi 85

ILLUSTRATIONS

PAGE
Dermatitis Gangraenosa Infantum .... facing page 8
Charles E. Jones, M. D., Portrait .... facing page 38
Crookes' Tube 241
Mammary Cancer with Metastatic Involvement of the Bones .... facing page 160
Gärtner's Tonometer 88, 89
Temperature Charts 328, 346
Autoclav 386
Container for Surgical Dressings 387
Leather Case for Container 388
Glass Cylinder for Surgical Dressings 388
Frame for Skein of Silk 388
Test Tube for Metallic Sutures and Silver Wire 390
Test Tube for Surgical Silk 390, 392
Clark Cumol Sterilizer 391
Ignition Tube 389, 393
Irrigation Apparatus 394
Portable Sterilizer 395
Angina Epiglottidea Anterior, Colored Plates.... facing pages 396 and 400
Lot Plan, Albany Hospital 673
Floor Plan, Albany Hospital 674

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Ἀσφαλὲς καὶ ἔμπεδον ἔστω τὸ σὸν ἕδος. Ἐκ σκότου μὲν ἔξαγε
φάος, ἐκ δὲ πάθους ἀναψυχήν

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Vol. XXI. No. 1 CONTENTS January, 1900

ORIGINAL COMMUNICATIONS

Dermatitis Gangrænosa Infantum..........By H. JUDSON LIPES, M. D. 1
Tuberculosis in Children..........By WILLIAM H. HAPPEL, M. D. 11

CLINICAL AND PATHOLOGICAL NOTES

A Case of Splenic Myelogenous Leukæmia with Autopsy..By HERMON C. GORDINIER, M. D. 18

CORRESPONDENCE

Vienna Letter..........By H. L. K. SHAW, M. D. 22
Philadelphia Letter..........By HARRY S. PEARSE, M. D. 27

EDITORIALS

A School for Tropical Diseases.......... 31
The Elective Diagnosis of Typhoid Fever.......... 32

SCIENTIFIC REVIEW

The Antitoxin Treatment of Tetanus..........By ARTHUR W. ELTING, M. D. 32

IN MEMORIAM

CHARLES E. JONES, M. D..........By GEORGE E. GORHAM, M. D. 37

MEDICAL NEWS

Medical Society of the County of Albany.......... 38
Albany Medical College Alumni Association of Greater New York.......... 43
Detention Ward for the Albany Hospital.......... 44
Coroners' Physicians of Albany County.......... 45
Business Committee of the Medical Society of the State of New York.......... 45
Maternity Hospital at Niagara Falls.......... 45
Suspension of Medical Students.......... 45
Professor Virchow's Jubilee.......... 45
New Emergency Hospital at Buffalo.......... 46
The First Suburban Sanitarium in Russia for Indigent Tuberculous Patients.......... 46
More Medical Officers in the United States Army.......... 46
Personal.......... 47

BOOK REVIEWS

Refraction and How to Refract..........By JAMES THORINGTON, M. D. 47
A Practical Treatise on Materia Medica and Therapeutics By ROBERTS BARTHOLOW, M. D. 49
The Surgical Diseases of the Genito-Urinary Tract..........By G. FRANK LYDSTON, M. D. 50

CURRENT MEDICAL LITERATURE

MEDICINE

Weil's Disease.......... 51
Affections of the Lungs in Typhoid.......... 52
Therapeutic Modification of the Gastric Secretion.......... 53
Visceral Syphilis.......... 54
Carbolic Acid Injections in Tonsilitis.......... 55
Therapy of Bronchial Asthma.......... 55
Treatment of Gout.......... 55
A Case of Chronic Trional Poisoning.......... 56

NEUROLOGY

Tumor of the Bituitary Body.......... 57
Pathological Anatomy of Acromegaly.......... 57
Changes in the Peripheral Nerves in Chronic Disease of the Blood Vessels.......... 57
Changes in the Nerves During Acute Disturbances in the Circulation.......... 58
Nothnagel's Convulsive Center in the Pons.......... 59
Mental Symptoms of Fatigue.......... 59
Post-Anæsthetic Paralyses.......... 60

OPHTHALMOLOGY

Conjunctivitis Folliculosa and Trachoma.......... 61
Headache and Affections of the Eye.......... 62
Resection of the Sympathetic in the Treatment of Glaucoma.......... 63

LARYNGOLOGY AND RHINOLOGY

Blue Nasal Secretion.......... 64
Two Cases of Foreign Bodies in the Air Passages.......... 64

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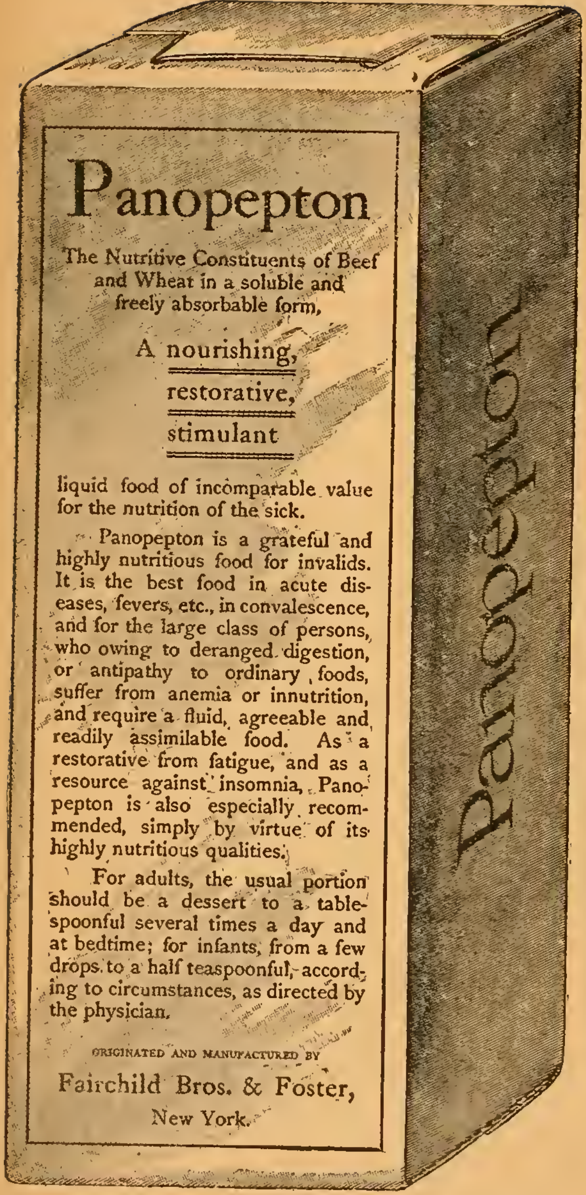

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